

THE BIRDS OF THE LOWLANDS OF BWAMBA, TORO PROVINCE, UGANDA

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ABSTRACT: The forested areas of the lowlands of Bwamba, extreme western Uganda, are, in effect, the eastern outliers of the great Ituri Forest of the Congo, and it is in Bwamba that many Congo birds reach their eastern limits. The Bwamba Forest was one of the west Uganda forests covered by the four year survey of the Los Angeles County Museum of Natural History under National Science Foundation Grants GB-5107 and GB-7787. The Bwamba collections in this Museum comprise about 2200 specimens of 216 species, which, altogether with a few additions previously recorded, add some 81 species to the Bwamba avifauna as compiled in 1949 by the van Somerens, a total of 380 species in all. In the case of a good number of species these Bwamba records are the first, and only, indications of their occurrence in Uganda. The present report is a complete list of the Bwamba lowland avifauna, but it avoids useless repetition by giving details only where they add to previous knowledge. Our west Uganda survey concentrated on the forest fauna, as it is the wooded sections, and not the surrounding grassy areas, that are in danger of being altered by man, and as a result most of the additional species are sylvan dwellers. The sad fact remains that at the rate at which these forests are disappearing these woodland species may also disappear from the Uganda extremities of their respective ranges.

Bwamba County, Toro District, Uganda, lies along the Uganda-Congo border, 0° 40' N. to 0° 54' N., 29° 47' E. to 30° 10' E. It is bounded on the north by the Semliki river, on the east and southeast by the Ruwenzori mountains, and on the southwest by the Lamia river. It is isolated from the rest of Uganda by the Ruwenzori range and the Lake Albert escarpment, which effectively demarcate Bwamba from the high plateau of Toro. Although the eastern boundaries of Bwamba County follow the high watershed of the northern part of Ruwenzori, most of the county lies at a much lower altitude in the trough of the Albertine rift.

The rich, wet forests of the Bwamba lowlands, now only a fragment of what they were not too many years ago, are essentially Congolese in their fauna. Inasmuch as it is in these forests that many central African birds reach their easternmost limits, it is biologically desirable to know as accurately as possible the longitudinal and latitudinal, as well as the ecological, terminal points for each species. While it is recognized that faunas have limits to which their included species adhere, the precise factors that control or that limit their distribution and the extent to which each of them are effective are frequently

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different for different species. The accurate mapping of its range is part of the descriptive knowledge of any given kind of bird (or other animal). There is an urgency about gathering such information and in preserving for future study adequate specimen material of each, as every year sees more and more of the original forest cleared for general agriculture, due to dense population pressure, with all the local changes in biotic distribution that such alterations of the habitat are bound to produce.

Although it is undeniable that the lowland forests of Bwamba (2200 to 3500 feet) are no longer the dense, high canopy, tropical habitat they once were, they still are sufficiently like their original condition in some places to have retained their vertebrate fauna. Our knowledge of this fauna has grown greatly in the last few years. This is especially true of the birds, the part of the total fauna dealt with in this paper. This new information is due chiefly to very extensive collecting surveys made in the Bwamba forests by field parties under the direction of the Los Angeles County Museum of Natural History, first in 1963 by the Knudsen-Machris Expedition, and later, in 1967 and 1968-1969, with the financial sponsorship of National Science Foundation grants GB-5107 and GB-7787. In all three surveys [the collecting team consisting of A. L. Archer (1963 and 1967) and R. Glen and A. Williams (1968-1969)] the field work was concentrated in the dense forest itself, and only small and incidental collections were made in the adjacent grasslands and savannas. A relatively short time was spent in the Ruwenzori highlands as well, but the collections made there, while highly desirable for the Museum, added little to previous knowledge, as the montane fauna is relatively limited and had, apparently, been well explored by earlier parties. Accordingly, in this report, we are leaving out of our discussion the Ruwenzori montane material.

The comprehensive report by the van Somerens, issued in 1949, offers a firm base from which to extend our knowledge of Bwamba ornithology. Between that publication and the present one only a small number of papers have appeared that deal wholly or in part with the birds of Bwamba. These, all listed in the bibliography of this report, are as follows: Eggeling 1954; Friedmann 1966, 1968a, 1968b, 1969a, 1969b; Friedmann and Williams 1968; Keith 1968; Keith and Twomey 1968; Ridley, Percy and Percy 1953; Weekes 1949; Williams 1951, 1957. In addition, it may be mentioned that Smart made a number of observations in Bwamba; his sight records were turned over to Keith, who included them in his papers.

The van Somerens' report dealt with the birds of the whole of Bwamba County, which ranges ecologically from the lowland forest, the area of special interest in the present paper, to the alpine highlands of Ruwenzori, where vegetation extends up to about 12,000 feet. The low country, forming Zone 4 of the van Somerens' paper, is the great stretch of undulating forested terrain, ranging from 2200 to 3500 feet in elevation, watered by numerous transecting streams flowing across to the Semliki. Each of these streams is in a broad and fairly deep valley, originally, and still, in part, covered by dense, high-canopy forest, or, in some instances, with grassy swamps. The areas between these

valleys are largely clothed with stands of tall elephant grass. The dense, ever-green forests, which extend in many places up to the Semliki, are merely extensions of the great Ituri forest on the other side of that river, and form the eastern limit of what Chapin (1932: 90) termed the Lower Guinea Forest District of the Congo. The Bwamba forests are characterized by their high canopy, averaging 80 feet, but with trees of lower height as well, and have thick, luxuriant undergrowth. The humidity and temperature are high in these lowlands. According to the van Somerens the temperature varies little and the humidity is usually near the saturation point, with an annual rainfall of about 60 inches a year spread throughout the year, but with the precipitation less in January and February than in other months. At Lesse, on the Congo side of the Semliki valley, Chapin (1932: 48) noted that rain fell almost daily throughout a great part of the year.

As Chapin (1932: 81) has pointed out, temperature alone appears to exert no marked influence on the distribution of birds (and other animals and plants as well) in central Africa, at elevations below 5000 feet. Inasmuch as the Bwamba forest is well below this elevation we need not be concerned with temperature, particularly because it is so stable. Although the quantity and the seasonal distribution of rain in the lowlands does affect the biota, there are no differences in this regard in the various parts of the Bwamba forest, which is, in a geographic sense, a relatively small and uniform area. In this whole area the highest monthly mean temperatures occur during the first quarter of the year, usually in March and April, while the lowest minimum temperatures occur in July and August, but the difference between the extremes is only about 10° Centigrade or 18° Fahrenheit.

In their discussion of the distribution of birds in this area the van Somerens stressed the fact that the local aspects of the occurrence of the component species showed the Bwamba forest to be more or less stratified—the high canopy; the intermediate trees and tall shrubs; and the dense undergrowth—and that each of these strata has its characteristic birds, insects, etc. They gave further information about these forests, which are still applicable even in their present reduced condition, and from which the following facts have been extracted.

Some parts of the forest consist of relatively pure stands of ironwood (*Cyanometra alexanderi*) and in these areas the intermediate stratum is largely absent. While the undergrowth is relatively sparse, it still is sufficient to afford good ground cover habitats for the birds of the forest floor, which have thereby managed to persist in spite of extensive deforestation.

The van Somerens noted the heavy, tangled, almost impenetrable undergrowth in the mixed forest areas, denser in some places than in others, but all with very dense vegetation along their margins, while in the wetter, soggy portions the forest floor was carpeted with a tall growth of Zingiberaceae (the ginger family) and Marantaceae (arrowroot family). The van Somerens listed among the larger trees ironwood, already mentioned, which is the dominant tree at Ntandi, one of our collecting localities, mvule (*Chlorophora*

excelsa), Uganda mahogany (*Khaya anthotheca*), mbande (*Azelia bella*), and two species of *Cordia* (*millenii* and *abyssinica*). At Mongiro, another locality where our collectors worked, there are also extensive stands of oil palms (*Elaeis guineensis*). In places there are many large fig trees (*Ficus*) whose fruits attract many pigeons, touracos, and other frugivorous birds. Other trees mentioned by the van Somerens include munyamaizi (*Mitragyna stipulosa*), kesuba (*Antiaris toxicaria*), nsambya (*Markhamia platycalyx*) and three others for which they give no local native names, *Alstonia congensis*, *Mildbraediodendron excelsum*, and *Spathodea campanulata*, the flame tree.

The material on which the present report is based is housed in the permanent collections of the Los Angeles County Museum of Natural History, and comprises 2281 specimens of 216 species. Further collections, containing 98 specimens of 37 species, in the Western Foundation of Vertebrate Zoology, have kindly been made available as requested in connection with this report. The combined collections were made in almost all months of the year, the greatest part in April, May, June, July, October, November, and December. Aside from small number of European migrants, such as some of the sandpipers and a very few of the wagtails and flycatchers, the rest of the species are resident, completely non-migratory birds. It has not been possible for us to search for unpublished Bwamba material in other museums.

To present a clear picture of the great increase in our knowledge of Bwamba ornithology, we may eliminate all the Ruwenzori highland birds from the van Somerens' list, as we have done from our present collection. The van Somerens reported 344 species in all, but of these 45 were from above 5000 feet elevation, leaving a total of 299 kinds of birds from the Bwamba lowlands, including both the forests and the immediately adjacent open country. To this number we may now add 81 more, bringing the total up to 380 species, a very large list for an area of that size. These 81 additional birds include a number of species already reported in print since the van Somerens' basic paper, but these are included here because the records were published a few at a time in widely scattered papers and journals, difficult to bring together. It may be noted that our field parties made no special efforts to collect birds away from the forested areas. Consequently the list for the Bwamba lowlands is incomplete for the birds of the open country, but it is, we think, now reasonably comprehensive for the birds of the evergreen forests. Of the birds now added to the lowland Bwamba bird list, nearly two-thirds are forest species. It must be remembered that of the non-sylvan species, the majority were taken at the very edges of, and probably intrude short distances into, the forest. Localities on their labels are identical with those of some strictly woodland birds. In the following list of additions to the Bwamba avifauna, the non-forest birds are marked with an asterisk after their names. Most of the species that were listed by the van Somerens, but not obtained by our collectors, are species of the open country, not of the forest.

Moreau (1966: 288) took the van Somerens' 1949 list, to which he added data from Williams (1951) and unpublished notes supplied him by

Keith, and from this total he reduced the list of what he considered the true forest birds of the Bwamba lowlands to 128 species. This number was arrived at by eliminating many species that we consider properly designated as forest dwellers. It is obvious that no two compilers will agree on all cases, but this, in itself is relatively minor, as it is often a matter of judgment rather than of data. The important thing that Moreau brought out, and which stresses the great richness of the Bwamba avifauna, is the following. The area of about twenty square miles of Bwamba lowland forest collected in by the van Somerens and their assistants, by Williams and by Keith, was found to be "... inhabited by nearly half as many species of birds as the entire Congo, and nearly two-thirds as many as the 70,000 square miles of the whole Upper Guinea forest..." Our present additions to the known Bwamba Forest ornithology increase its relative richness still more. The lowland forests of Bwamba must possess one of the greatest concentrations of bird species of any area in the entire African continent.

The additions to the known avifauna of the Bwamba lowlands since the van Somerens' basic report are:

<i>Podiceps ruficollis capensis</i> *	<i>Merops apiaster</i> *
<i>Nycticorax nycticorax</i> *	<i>Merops superciliosus superciliosus</i> *
<i>Butorides striatus atricapillus</i> *	<i>Upupa epops epops</i> *
<i>Necrosyrtes monachus</i> *	<i>Pogoniulus scolopaceus</i>
<i>Accipiter badius sphenurus</i> *	<i>Pogoniulus subsulphureus</i>
<i>Accipiter castanilius</i>	<i>flavimentum</i>
<i>Buteo buteo vulpinus</i> *	<i>Pogoniulus atro-flavus</i>
<i>Hieraaetus dubius</i>	<i>Trachyphonus purpureus elgonensis</i>
<i>Falco subbuteo</i> *	<i>Indicator variegatus</i> *
<i>Francolinus lathami</i>	<i>Indicator minor riggenbachi</i>
<i>Sarothrura elegans</i>	<i>Indicator conirostris conirostris</i>
<i>Himantornis haematopus haematopus</i>	<i>Indicator exilis pachyrhynchus</i>
<i>Tringa glareola</i> *	<i>Indicator pumilio</i>
<i>Tringa ochropus</i> *	<i>Melichneutes robustus</i>
<i>Tringa hypoleucos</i> *	<i>Melignomon zenkeri</i>
<i>Calidris minuta</i> *	<i>Verreauxia africana</i>
<i>Larus fuscus fuscus</i> *	<i>Dendropicus gabonensis gabonensis</i>
<i>Columba malherbii iriditorques</i>	<i>Smithornis rufolateralis budongoensis</i>
<i>Streptopelia capicola tropica</i> *	<i>Hirundo daurica emini</i> *
<i>Crinifer zonurus</i> *	<i>Phyllanthus atripennis bohndorfi</i>
<i>Cercococcyx mechowii</i>	<i>Chlorocichla simplex</i>
<i>Cercococcyx olivinus</i>	<i>Phyllastrephus lorenzi</i>
<i>Glaucidium tephronotum medje</i>	<i>Phyllastrephus icterinus tricolor</i>
<i>Glaucidium castaneum</i>	<i>Bleda eximia ugandae</i>
<i>Caprimulgus tristigma tristigma</i> *	<i>Criniger barbatus weileri</i>
<i>Caprimulgus batesi</i>	<i>Muscicapa striata striata</i> *
<i>Chaetura ussheri sharpei</i> *	<i>Trochocercus albicauda</i>
<i>Alcedo leucogaster leopoldi</i>	<i>Trochocercus albiventris toroensis</i>

Erythropygia leucosticta collis
Erithacus erythrothorax mabirae
Erithacus cyornithopsis lopezi
Cossypha natalensis intensa
Zoothera oberlaenderi
*Campephaga phoenicea phoenicea**
*Sphenoeacus mentalis mentalis**
*Cisticola natalensis strangei**
*Cisticola brachyptera brachyptera**
Malaconotus cruentus adolfi-friederici
Oriolus oriolus oriolus
Onychognathus fulgidus hartlaubii
*Ptilostomus afer**

Anthreptes longuemariae haussarum
Anthreptes collaris somereni
Nectarinia rubescens rubescens
Nectarinia afra stuhlmanni
Nectarinia bouvieri
Ploceus pelzelni pelzelni
Ploceus melanocephalus fischeri
Ploceus albinucha holomelas
Malimbus malimbicus malimbicus
*Euplectes hordeaceus craspedopterus**
Nigrita luteifrons luteifrons
Spermophaga poliogenys
Parmoptila woodhousei jamesoni

In the present state of our knowledge of African birds no useful purpose would be served by a fully annotated catalogue of all the Bwamba bird specimens in the Los Angeles County Museum of Natural History, as in many cases they merely repeat or corroborate the earlier report of the van Somerens. However, there is an advantage in presenting a complete list of the known Bwamba avifauna. To simplify this, where we have no new specimen data or observations, we merely list the species with a reference to the appropriate page in the van Somerens' 1949 report. Even in the case of species where we do have new data the details are given only where they add to previous knowledge. The nomenclature used is that of White's lists, except where more recent reviews have been published, or where we have reason to disagree with his treatment.

In order to reduce the bulk of the following catalogue the references to the van Somerens' report are abbreviated to v. S. 1949: followed by the page number.

BWAMBA COLLECTING LOCALITIES

Bubukwanga (16)	Kisuba (18)
Bumaga; one mile northeast of Ntandi (9)	Korongo (6)
Bundibugyo (1)	Mongiro (7)
Bundikeke (17)	Nkarara (8)
Bundimusuba (2)	Ntandi (9)
Buranga Pass (3)	Ntoroka; open country near Ntandi (9)
Bweramule (not on map; about 6 miles northeast of map limits)	Ntotoro (10)
Hakitengya (4)	Nyankiro (11)
Humia River (5)	Rwansenge (12)
Kanyamwerima (15)	Sempaya (13)
Kirimia River (14)	Tokwe River; close to Humia (5)

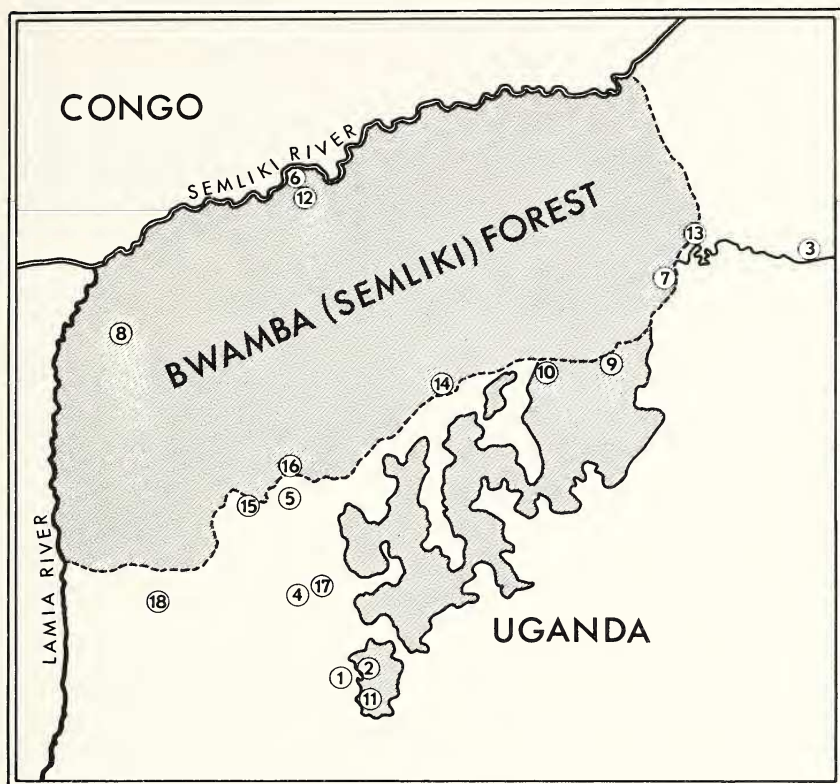


Figure 1. Bwamba Collecting Localities

FAMILY PODICEPITIDAE

Podiceps ruficollis capensis Salvadori.

Ridley, Percy, and Percy (1951: 161) noted a few dabchicks on the forest-edged Lake Nyangasa.

FAMILY PELECANIDAE

Pelecanus rufescens Gmelin. v. S. 1949: 14.

FAMILY PHALACROCORACIDAE

Phalacrocorax africanus africanus (Gmelin). v. S. 1949: 14.

FAMILY ANHINGIDAE

Anhinga rufa rufa (Daudin). v. S. 1949: 14.

FAMILY ARDEIDAE

Nycticorax nycticorax nycticorax (Linnaeus). v. S. 1949: 15.

Nycticorax leuconotus (Wagler).

One female, Ntandi, 2300 feet, December 11, 1968; ovary not enlarged; weight 436 grams; bill horn black, the basal two-thirds of the mandible greenish yellow; iris orange-brown; eye lids blackish edged with yellow; feet pale greenish yellow. The white-backed night heron appears to be a rare, or, at least, seldom collected, bird in Uganda.

Ardeola ibis ibis (Linnaeus). v. S. 1949: 15.

Butorides striatus atricapillus (Afzelius).

Ridley, Percy, and Percy (1951: 161) reported this heron from the Semliki river, below Sempaya, and another "almost certainly of this species" from the hot swamp near Mbuga Hot Springs.

Egretta alba melanorhynchos (Wagler). v. S. 1949: 14.

Egretta garzetta garzetta (Linnaeus). v. S. 1949: 15.

Ardea cinerea cinerea (Linnaeus). v. S. 1949: 14.

Ardea melanocephala Vigors and Children. v. S. 1949: 14.

Ardea goliath Cretzschmer. v. S. 1949: 14.

FAMILY SCOPIDAE

Scopus umbretta umbretta Gmelin. v. S. 1949: 15.

FAMILY CICONIIDAE

Ciconia ciconia ciconia (Linnaeus). v. S. 1949: 15.

Ciconia abdimii Lichtenstein. v. S. 1949: 15.

Anastomus lamelligerus lamelligerus Temminck. v. S. 1949: 15.

Leptoptilus crumeniferus (Lesson). v. S. 1949: 16.

Ridley, Percy, and Percy (1953: 164) saw a few of these storks at Bweramule.

Ibis ibis (Linnaeus). v. S. 1949: 16.

FAMILY THRESKIORNITHIDAE

Threskiornis aethiopicus aethiopicus (Latham). v. S. 1949: 16.

Bostrychia hagedash brevirostris (Reichenow). v. S. 1949: 16.

Platalea alba Scopoli. v. S. 1949: 16.

FAMILY ANATIDAE

Dendrocygna viduata (Linnaeus). v. S. 1949: 16.

Alopochen aegyptiaca (Linnaeus). v. S. 1949: 17.

Plectropterus gambensis (Linnaeus). v. S. 1949: 17.

Sarkidiornis melanota melanota (Pennant). v. S. 1949: 17.

Anas sparsa leucostigma (Rüppell). v. S. 1949: 16.

Anas undulata undulata Dubois. v. S. 1949: 16.

Netta erythrophthalma brunnea Eyton. v. S. 1949: 16.

FAMILY ACCIPITRIDAE

Aegypius monachus (Linnaeus). v. S. 1949: 17.

Gyps bengalensis africanus Salvadori. v. S. 1949: 17.

Necrosyrtes monachus (Temminck).

Ridley, Percy, and Percy (1953: 164) noted hooded vultures at Bwera-mule.

Gypohierax angolensis (Gmelin).

One adult male, Ntandi, 2300 feet, June 27, 1967, testes not enlarged; weight 1575 grams; bill whitish gray; iris yellow; feet pale yellowish brown; stomach contents palm nut husks and fibre. Also recorded from Bwamba by the van Somerens (1949: 19).

Polyboroides radiatus typus Smith.

One immature female in worn, brown plumage, Nkarara, 2200 feet, July 2, 1967; ovary not enlarged; weight 652 grams; cere yellow; bill black, grayish at base; iris brown; feet yellow. Also recorded from Bwamba by the van Somerens (1949: 21). Our specimen was raiding the nests of palm swifts when collected.

Dryotriorchis spectabilis batesi Sharpe.

Added to the Bwamba list by Ridley, Percy, and Percy (1953: 162) on the basis of a sight record, "almost certainly of this species," near Hakitengya, September 30.

Terathopius ecaudatus (Daudin). v. S. 1949: 19.

Accipiter tachiro sparsimfasciatus (Reichenow).

Six specimens, 1 ♂, 5 ♀, Ntandi, 2300 feet, June to December; weights 235 grams ♂; 300 to 493.5 grams ♀; stomach contents small birds and a rodent. Also recorded from Bwamba by the van Somerens (1949: 20-21).

Accipiter badius sphenurus (Rüppell).

One adult male, Ntandi, 2300 feet, October 26, 1968; testes slightly enlarged; weight 108 grams; bill black, gray at base of mandible; iris orange; feet bright yellow; eye skin orange-yellow. The specimen is somewhat intermediate between *sphenurus* and *polyzonoides*, but is well placed in the former race.

Accipiter castanilius Bonaparte.

This rare hawk is represented by a single male, taken April 1, 1963; testes not enlarged; bill black, yellowish at base; feet yellow. As reported earlier (Friedmann, 1966: 15) this is the first record for the species in Uganda, and the easternmost example thus far reported.

Accipiter erythropus zenkeri Reichenow.

The fact that three examples of this hawk were taken in as many localities in Bwamba indicates that it must be fairly common, although like most forest raptors it is not numerous in any one spot. The specimens are: 1 ♀, Rwansege, 2200 feet, July 13, ovary not enlarged; 1 ♂, Ntandi, 2300 feet, December 8, testes slightly enlarged; 1 ♀, Nyankiro, 3000 feet, November 24, ovary not enlarged; weights recorded for the male 94 grams, and 170 grams for one of the females. Bill black, grayish black on the lower mandible; yellowish at the base in one ♀; cere and gape chrome yellow; iris red to bright crimson; feet chrome yellow to lemon-yellow; stomach contents a small bird in one case, and a large caterpillar in another.

The specimen collected at Ntandi was seen to fly into the upper foliage of a tall tree, almost smashing its way among the leaves. It appeared to be attempting to catch some small birds, making short but rapid flights among the branches. It did this four times before it was collected. The Nyankiro bird was one of a pair in courtship display. It flew over the other individual in circles and then landed on a branch, when it began to swing its tail back and forth for a few seconds. The fact that the specimen is a female raises the question of the activities of the sexes in the courtship performance.

Also recorded from Bwamba by the van Somerens, 1949: 20.

Melierax metabates mechowii Cabanis. v. S. 1949: 21.*Melierax gabar* (Daudin). v. S. 1949: 21.*Urotriorchis macrourus* (Hartlaub).

A male, taken at Ntandi, 2300 feet, November 27, 1968, is the first actual specimen record from Uganda. The van Somerens (1949: 21) saw the long-tailed hawk at Ntandi in August 1946, and reported that Haddow had seen the species in Bwamba on several occasions. While there was little reason to question the accuracy of these sight records, it is good to have them reinforced by a specimen. The bird was not in breeding state. Our specimen is in nearly fully adult plumage, but still has some of the brown feathers of

the immature stage among the newer blue-gray ones of the upperparts, and also has some white showing among the chestnut bay of the underparts; bill black, grayish at the base; cere and gape yellow; iris orange-brown; eye ring pale grayish yellow; feet yellow; weight 491.5 grams. The specimen was collected in the upper undergrowth of mixed forest. When first seen it was low down, and when disturbed, it flew through the forest at the same low level, finally landing higher up, about 30 feet from the ground. Its stomach contained one small rodent. On two other occasions the collectors noted examples of this hawk, but were unable to obtain them, an adult at Nyankiro, November 24, and a young bird at Ntandi, November 29.

Kaupifalco monogrammicus (Temminck).

Lizard buzzards were collected on two occasions, a male at Ntandi, 2300 feet, December 11, and a female at Nyankiro, 3000 feet, November 25; both were in non-breeding condition; bill black; cere and gape orange; iris dark chestnut brown; eye ring dull orange; feet pale orange; stomach of one specimen contained a single large beetle, the other was empty; one bird weighed 309 grams.

Buteo rufofuscus augur (Rüppell). v. S. 1949: 20.

Buteo buteo vulpinus (Gloger).

Two males of the steppe buzzard were collected at Ntandi, 2300 feet, one on November 3 and the other on December 10; both with small testes, bill black, grayish basally; cere yellow; iris cream brown; feet yellow. The November example was seen to fly up from the ground with a rodent in its claws, but this was lost when the bird was shot. Its stomach contained some rodent fur; the other bird had some snake scales in its stomach; one bird weighed 427 grams.

This hawk is, of course, a winter visitor from the Palaearctic, and, as such, is only seasonally a member of the Bwamba ornithofauna.

Lophoaetus occipitalis (Daudin).

One adult, unsexed, crested hawk eagle was taken at Ntandi, 2300 feet, June 13; bill gray becoming black terminally; iris and eye ring yellow; feet pale yellow; stomach contents remains of a rodent, *Lophuromys*. Also reported from Bwamba by the van Somerens (1949: 18).

Stephanoaetus coronatus (Linnaeus).

One female, Ntandi, 2300 feet, June 25; bill black, cere and gape yellow; iris cream yellow; feet yellow. The van Somerens (1949: 18) listed numerous Bwamba localities for the crowned hawk-eagle, showing its general presence in the forests there.

Polemaetus bellicosus (Daudin). v. S. 1949: 18.

Hieraaetus dubius (Smith).

The very rare Ayres' hawk-eagle is represented by an adult male, testes slightly enlarged, taken at Ntandi, 2300 feet, June 25; bill black, grayish basally; cere and iris yellow; feet pale yellow; weight 685 grams; remains of a small bird in stomach. This specimen, together with another from the Kibale forest, have been discussed by the present authors previously (1968: 12).

Aquila wahlbergi Sundevall, v. S. 1949: 18.

Haliaeetus vocifer (Daudin). v. S. 1949: 18.

Milvus migrans parasitus (Daudin). v. S. 1949: 17.

Ridley, Percy, and Percy (1953: 164) saw this kite at Bweramule.

Elanus caeruleus caeruleus (Desfontaines). v. S. 1949: 17.

Macheirhamphus alcinus anderssoni (Gurney). v. S. 1949: 18.

FAMILY PANDIONIDAE

Pandion haliaetus haliaetus (Linnaeus). v. S. 1949: 22.

FAMILY FALCONIDAE

Falco cuvieri Smith. v. S. 1949: 17.

Falco subbuteo Linnaeus.

The hobby was added to the Bwamba list by a single example in worn plumage, a male with small gonads, taken at Ntandi, 2300 feet, at the edge of the forest, November 29; bill pale yellowish gray darkening to black at the tip; cere greenish yellow; iris dark brown; eye skin yellowish; feet pale yellow; weight 125 grams; one beetle in stomach.

Falco ardosiaceus Bonnaterre and Vieillot. v. S. 1949: 17.

FAMILY PHASIANIDAE

Francolinus lathamii Hartlaub.

A Latham's francolin was caught in a trap on the ground near a stream at Ntandi, 2300 feet, November 30. The bird is a fully adult male; testes not enlarged; bill black; iris dark brown; feet dull lemon yellow; weight 254 grams; stomach contents small seeds, grit, and unidentifiable insect remains. This species reaches its eastern limits in western Uganda, where it has been collected only a few times.

Francolinus squamatus schuetti Cabanis.

Two specimens: 1 ♂, testes not enlarged, Bwamba Valley, April 30; 1 ♂, testes not enlarged, Bundimusuba, July 11; bill orange; iris brown; feet orange; weight 552 grams; stomach contents seeds and grit. Also recorded from Bwamba by the van Somerens (1949: 22).

Coturnix delagorguei delagorguei Delagorgue. v. S. 1949: 22.

FAMILY NUMIDIDAE

Numida meleagris toruensis Neumann.

One downy chick, ♀?, Ntoroka, 2800 feet, June 23; bill pale yellow-brown; iris grayish brown; feet dull orange-brown. Also recorded from the Bwamba lowlands by the van Somerens (1949: 23). Ntoroka is not a forest locality, and the helmeted guineafowl is, of course, a bush country bird.

Guttera edouardi sethsmithi Neumann.

One ♂, testes not enlarged; Ntandi, 2300 feet, July 2; bill pale greenish horn, the lower mandible darker, especially basally; iris dark brown; feet blackish; weight 1026 grams; stomach contents grit, vegetable and insect remains. Recorded by van Someren (1949: 22) from other Bwamba localities as well as from Ntandi.

FAMILY RALLIDAE

Limnocorax flavirostra (Swainson) v. S. 1949: 23.

Sarothrura elegans (Smith)

The little buff-spotted crane may be added to the Bwamba avifauna on the basis of an adult male, testes not enlarged, taken at Ntandi, 2300 feet, June 29; bill blackish horn, paler on the mandible; iris dark brown; feet gray-brown; weight 41 grams; stomach content mainly snails.

Sarothrura pulchra centralis Neumann.

Common in the Bwamba forest; six specimens from Ntandi, 2300 feet, and Bundimusuba, 3000 feet; weights 43 to 49 grams; all in non-breeding condition (June, July, November); stomach contents grit, snails, and insect remains. These rails respond to an imitation of their call, a series of five notes given in quick succession. One that was called in by Glen came so close, almost on his shoe, that it was too close to shoot. Williams then had to call it toward him and was able to collect it.

Himantornis haematopus haematopus Hartlaub.

This large forest rail is here reported for the first time from Uganda, and is the easternmost known specimen record. An adult ♂, testes not enlarged, was collected at Ntandi, 2300 feet, December 2, 1968; bill black, pale green-gray at the base of the mandible; gape black; iris orange-brown; eye skin blackish; feet pinkish red; weight 438 grams; stomach contents large bits of grit and some seeds. This specimen was trapped in a noose set on an animal path in the forest. Another individual, possibly its mate, was also present but retreated when the bird was removed from the snare by the collector.

Gallinula chloropus meridionalis (Brehm). v. S. 1949: 23.

FAMILY BURHINIDAE

Burhinus vermiculatus vermiculatus (Cabanis). v. S. 1949: 24.

FAMILY CHARADRIIDAE

Charadrius hiaticula tundrae (Lowe). v. S. 1949: 23.

Charadrius tricollaris tricollaris Vieillot.

In the open country at the edge of the forest, at Ntandi, 2300 feet, one male, testes not enlarged, was collected July 19; weight 32 grams. Also recorded by the van Somerens (1949: 23) in all months of the year.

FAMILY SCOLOPACIDAE

Tringa nebularia (Gunnerus).

Ridley, Percy, and Percy (1953: 162) reported one at Mongiro, 2300 feet, October 16.

Tringa stagnatilis (Bechstein)

One unsexed marsh sandpiper was collected at Mongiro, November 7. An earlier record from the same place was listed by Ridley, Percy, and Percy (1953: 162).

Tringa glareola (Linnaeus).

The wood sandpiper was found to be common at Mongiro by Ridley, Percy, and Percy (1953: 162); our collectors did not find it.

Tringa ochropus (Linnaeus).

Reported from Bwamba only by Ridley, Percy, and Percy (1953: 162) at Mongiro.

Tringa hypoleucos Linnaeus.

Same as for preceding species.

Gallinago media (Latham). v. S. 1949: 24.

Crocethia alba (Pallas). v. S., 1949: 24.

Calidris minuta (Leisler).

Known from Bwamba only on the basis of a sight record by Williams (1951: 110).

Philomachus pugnax (Linnaeus). v. S. 1949: 24.

Himantopus himantopus himantopus (Linnaeus). v. S. 1949: 24.

FAMILY LARIDAE

Larus fuscus fuscus (Linnaeus).

Known from Bwamba on the basis of one example reported by Ridley, Percy, and Percy (1953: 162), and another captured at Bundibugyo, July 2, recorded by Eggeling (1954: 198). The latter was a bird originally banded in Sweden.

FAMILY COLUMBIDAE

Columba arquatrix arquatrix Temminck.

Three specimens of this common pigeon were collected: 1 male, 1 female, Bundimusuba, 3000 feet, November 20, 27; 1 male, Mongiro, 2300 feet, November 6; all in non-breeding plumage; bill yellow; iris yellow-brown; bare skin around eye lemon yellow; feet yellow; weights 309 (♀), 408, 429 grams (♂s). The female has the occiput and nape dusker than do the males. This species was also recorded from Bwamba by the van Somerens (1949: 24) and by Ridley, Percy, and Percy (1953: 162). Large flocks visit the hot springs at Mongiro to drink, usually in the late afternoon. A few *Columba albinucha* sometimes associate with these flocks.

Columba albinucha Sassi.

Ridley, Percy, and Percy (1953: 162) collected a young white-naped pigeon near Mongiro, October 7. Also reported earlier by the van Somerens (1949: 25).

Columba malherbii iriditorques (Cassin).

Keith (1968: 5) suggested that a pigeon whose voice he tape-recorded in Bwamba was of this species. He did not see or collect the bird, and at the time thought he was listening to *C. delegorguei*, a pigeon with which he was familiar. It was later, on realizing that *delegorguei* does not occur in Uganda or the adjacent part of the Congo, that he reidentified the recording as *iriditorques*, a species known to live in the lowland forest just across the Semliki river, and known to have a call very similar to that of *delegorguei*. The place of *iriditorques* in the Bwamba fauna is highly likely, but is yet to be corroborated by a specimen record. Recently we have reported (1970: 16) the first Uganda specimen of this pigeon from the lower level (5300 feet) of the Impenetrable Forest, extreme southwestern Uganda.

Streptopelia semitorquata (Rüppell).

This common pigeon was collected at three Bwamba localities: Ntandi, 2300 feet, December 6, one male, testes not enlarged; Rwansenge, 2200 feet, July 14, one male, testes enlarged; Bwamba Valley, April 24, one unsexed bird; feet dark maroon; weights 193 to 200 grams; stomach contents seeds. Also recorded by the van Somerens (1949: 25).

Streptopelia capicola tropica (Reichenow).

Ridley, Percy, and Percy (1953: 162) reported this ring-necked dove only east of the Buranga Pass, but not on the Bwamba side of Ruwenzori.

Turtur tympanistria (Temminck).

A long series of 16 specimens is at hand from Mongiro, Nkarara, Ntandi, and Bundimusuba; weights 52 to 58 grams (♀); 69 to 79 grams (♂). Also recorded by the van Somerens (1949: 26).

Turtur afer (Linnaeus). v. S. 1949: 26.

Aplopelia larvata jacksoni (Sharpe). v. S. 1949: 26.

Treron australis uellensis (Reichenow).

The Uelle green pigeon is represented by ten specimens from Ntandi, 2300 feet; Bundimusuba, 3000 feet; and Bwamba Valley. One of the birds, taken on July 6, had an enlarged ovary; the others were not in breeding condition; bill whitish gray, the soft parts pinkish red; iris bright metallic blue; bare skin around eye gray; feet lemon yellow in five specimens, red in the other five; weights 130 (♀), 182 to 216 grams (♂). Also reported by the van Somerens (1949: 26-27) and Ridley, Percy, and Percy (1953: 162). If *uellensis* and *gibberifrons* differ in the color of their feet, half of our Bwamba birds are of the former race, with yellow feet, and half are *gibberifrons*, with red feet.

FAMILY PSITTACIDAE

Poicephalus meyeri saturatus (Sharpe). v. S. 1949: 31.

Psittacus erithacus erithacus (Linnaeus).

One male, Ntandi, 2300 feet, December 8; bill black; iris gray; feet gray; weight 402 grams. Also recorded by the van Somerens (1949: 31).

Psittacula krameri krameri (Scopoli). v. S. 1949: 31.

Agapornis pullaria ugandae Neumann. v. S. 1949: 31.

Agapornis swinderniana emini Neumann.

Two males, Ntandi, 2300 feet, November 4; testes not, or only slightly, enlarged; two males, Nyankiro, 3000 feet, November 24; testes not enlarged; maxilla blackish gray, darker at the tip; mandible pale yellowish gray, darker on the tomium; iris Naples yellow; feet olivaceous gray; weights 39 to 41 grams. This relatively rarely collected love bird was seen at the edge of an isolated patch of forest, where as many as four birds were seen at once perching on the top of a tall tree. Noisy screeching sounds were heard from them. Previously recorded from Bwamba by the van Somerens (1949: 32) as well. Theirs was the first announcement of this species in Uganda; the present specimens are the only others taken in that country. The species feeds largely on the fruits of a small fruited fig tree, and has also been seen visiting the large red blossoms of the flame tree, *Spathodea*.

FAMILY MUSOPHAGIDAE

Tauraco schutti emini (Reichenow).

Emin's turaco is a common bird in the Bwamba forests; four specimens collected: Ntandi, 2300 feet, two males, June 18 and November 1; Mongiro, 2300 feet, one male, November 1; Bwamba Forest, one unsexed bird, April 24; bill black, reddish at base of mandible; iris dark brown; bare eye skin

red; feet black; weight 215, 229, 235 grams; stomach contents fruits. Also reported from several Bwamba sites by the van Somerens (1949: 31).

Musophaga rossae Gould.

Common in Bwamba; seven specimens collected: Bwamba Forest, one unsexed bird, April 19; Bundimusuba, 3000 feet, two males, one female, one unsexed bird, July 6, November 20, one of the July birds with large testes, the other and the November example with small gonads; Korongo, Semliki River, 2200 feet, one male, July 14, testes small; Mongiro, 2300 feet, one female, November 19, ovary slightly enlarged; maxilla yellow, with grayish tomium; cere orange; mandible orange-brown becoming yellow at the tip; iris dark brown; eye skin yellow; feet black; weight 398 grams (♀), 415 grams (♂); stomach contents fruits and seeds. The van Somerens (1949: 30) also reported this turaco in the Bwamba forests.

Crinifer zonurus (Rüppell).

Not in the forest, but in the adjacent open country; one female, ovary small, Bwamba Valley, April 24; bill greenish yellow; feet black.

Corytheola cristata (Vieillot).

The giant turaco is common in the Bwamba forests, as was first reported by the van Somerens (1949: 30). Our collectors noted it on several occasions and collected one male at Ntandi, 2300 feet, June 30; bill deep yellow on basal half, orange-red on the terminal half, the culminal ridge and tip blackish; iris dark brown; feet brownish black; weight 857 grams.

FAMILY CUCULIDAE

Clamator glandarius (Linnaeus). v. S. 1949: 28.

Clamator jacobinus pica (Hemprich and Ehrenberg). v. S. 1949: 28.

Clamator levaillantii (Swainson).

One male, Ntandi, 2300 feet, June 18; testes not enlarged; bill black; iris dark brown; feet dull gray; weight 115 grams; stomach contents beetle larvae, small and large. Also reported by Haddow (*in* van Somerens, 1949: 28). This cuckoo is not a sylvan bird, and must have been found just outside the true forest. It probably is not abundant as only one specimen was collected and as it was not seen years ago by the van Somerens in Bwamba.

Cuculus solitarius solitarius Stephens.

The red-chested cuckoo is represented by two examples, an adult male, testes slightly enlarged, Nkarara, 2200 feet, July 3, and an unsexed, juvenal bird, Ntandi, 2300 feet, November 1. In the adult the soft parts were recorded as follows: bill black, the mandible yellowish gray and basally yellow in one, merely somewhat grayish in the other; iris dark brown; eye-skin blackish; feet pale brownish yellow; stomach contents hairy caterpillars and other insect remains.

The adult bird is *solitarius* and not *clamosus gabonensis*, but it approaches the latter species in that it has the dark abdominal bars slightly darker and broader than in any of a series of *solitarius* from Kenya. Indeed, it agrees in this respect, as well as in the creamy white background of its abdomen and under tail coverts, with our Bwamba example of *gabonensis*, which, in turn, is unusually pale below for its species. It may be recalled that Ogilvie-Grant (1910: 424) recorded a similar *solitarius* specimen from the Ruwenzori.

The range of plumage variations in *solitarius*, as outlined long ago by Ogilvie-Grant and others, and in *clamosus gabonensis*, as described by Bates (1911: 500-502) and by Bannerman (1921: 89-95) still need further study with more material with more accurate and more detailed documentation, plus some facts, as opposed to guesses, as to the inheritance pattern of these characters. There can be no serious doubt about the close relationship of the two taxa, and it may be that the presently puzzling variations in the birds from areas of sympatry, such as Bwamba, may be the result of original mixing of the two before they had attained specific distinctness. The calls of the two species are, of course, quite distinct, but we have no way of knowing how or when, their vocal differentiation took place.

Cuculus clamosus gabonensis Lafresnaye.

One adult male, in non-breeding state, was taken at Ntandi, 2300 feet, December 12; bill black, base of mandible and sides more grayish; iris dark brown; eye ring black; feet pale brownish yellow; weight 89 grams. This specimen is considered to be *gabonensis* and not *solitarius* because of its darker, more glossy blue-black upper parts, the reduction of white marks on its rectrices, and because the reddish color of the breast extends across the throat and chin. However, the posterior lower parts are much paler than any other *gabonensis* examined, and agree, in fact, in the coloration of these areas, with the adult *solitarius* from Nkarara, mentioned under the preceding species account. The specimen would thus seem to come within the "*mabirae*" group of *gabonensis*.

The collector noted that this bird was heard calling a mournful whistle of three notes in an ascending scale—*twoo, twoo, twoo*. This is certainly in agreement with the known notes of *gabonensis* and not of *solitarius* and corroborates our identification of this unusually pale-bellied specimen. The van Somerens (1949: 28) also heard *gabonensis* in Bwamba. Williams (1951: 107) obtained a specimen there also. That this species and *solitarius* are sympatric in that area is not surprising; the two have been recorded together in a good number of places in the eastern Congo.

Cercococcyx mechowi Cabanis.

One female, Bwamba Forest, April 23, ovary small; one male, testes not enlarged, Bundimusuba, 3000 feet, July 10; bill blackish, the mandible greenish horn for its basal two-thirds, the tip black; iris dark brown; eye lids yellow; feet pale yellow with an orange tint; weight 52 grams; stomach contents insect

fragments. The April 23 specimen is the one mentioned in an earlier paper (Friedmann, 1966: 18).

Cercococcyx olivinus Sassi.

Our collectors did not meet with this cuckoo, but Keith (1968: 6) obtained one in a net in the Bwamba Forest, July 14, 1963. This is the only Bwamba record to date.

Chrysococcyx flavigularis Shelley.

This cuckoo would appear to be commoner in the Bwamba Forest than previous records suggest it is in the Congo Forest on the other side of the Semliki. Between November 3 and December 10, eight specimens, seven males and one female, were collected at Mongiro, 2300 feet, and Ntandi, 2300 feet; bill yellow-green, the tip and tomium yellow; iris cream white to cream yellow; eye-ring yellowish green; feet greenish yellow; weight 27.5 to 31 grams; stomach contents caterpillars. This remarkable series of a rarely collected bird has already been reported in detail (Friedmann 1969). The yellow-throated cuckoo had been reported previously from Bwamba by the van Somerens (1949: 29) and by Ridley, Percy, and Percy (1953: 163). Bwamba is the easternmost area, and the only one in Uganda, from which this species has been collected.

In the senior author's 1968 review of the glossy cuckoos it was pointed out that *C. flavigularis* was more closely related to *C. klaas* than to any other species of the genus *Chrysococcyx*, and that these two, together with *C. cupreus*, formed a group apart from their congeners. At the time that study was completed the only critical information on the anatomical similarities and differences in the various species of glossy cuckoos was what Berger (1955) had been able to record. When he made his dissections, no anatomical material of *flavigularis* was available to him, as none existed in any museum. Since then we have obtained the specimens mentioned above, and the bodies of these birds were preserved as well as their skins.

In an attempt to add to his earlier data, the body of one of our Bwamba specimens was sent to Berger, who very kindly agreed to study it. Although such a carcass, without the head, wings, and legs, and largely lacking the appendicular bones and muscles, presents only limited characters for examination, it is of interest to report that Berger found nothing to contradict or to minimize the close relationship of *flavigularis* and *klaas*, and he did find two anatomical features that further support this presumed relationship. The following data were generously sent to us, for our use, by Dr. Berger.

The structure of the iliotibialis muscle in *flavigularis* is like that in *klaas* and in *cupreus* and not like that in *caprius*. Differences in this muscle were looked upon, in Berger's 1955 report, as among the most important characters separating *caprius* from *klaas* and *cupreus*. Therefore the fact that its structure in *flavigularis* agrees with that in *klaas* and *cupreus* does support the close affinity existing between these species.

Furthermore, *flavigularis* has a single pair of intrinsic syringeal muscles, as do the other glossy cuckoos Berger had previously dissected, but here again *flavigularis* agrees with *klaas* and *cupreus* in having these muscles inserted on the fourth bronchial semiring, whereas in *caprius* and *lucidus* they are inserted on the third one.

Through the kind cooperation of Dr. Anton De Roo, of Tervuren, we have been able to study some young males of *flavigularis*, which enable us to add to the 1968 account of its plumages (loc. cit.: 114).

The first, juvenal, plumage has the upperparts of the head, body, and wings dark, slightly glossy green (as in the adult) but the feathers from the crown to the upper tail coverts with narrow, broadly spaced, bars of pale tawny; the underparts finely barred as in the female.

The second stage shows the feathers of the head and upper back, but not those of the rump and wing and tail coverts, without the tawny bars; underparts fairly similar to the first stage but with a slight yellowish tinge on the chin and throat; underparts of the body somewhat less ochraceous and paler, and with the dusky bars slightly paler than in the first stage.

In November 1969 our collectors, Robert M. Glen and Andrew Williams, made a quick visit to the east end of the Maramagambo Forest and heard *Chrysococcyx flavigularis* calling, but were unable to collect a specimen for the record. There is no reason to question this "sound" record, as the two men became familiar with the bird during their work in Bwamba. This observation extends the Uganda range of this cuckoo to a second locality about 85 miles south of Bwamba. It must be realized that the intervening country is not suitable for this bird, and that its known range in Uganda is merely the two forested areas, Bwamba, and Maramagambo.

Chrysococcyx klaas (Stephens).

Common in the more open parts of the forest; two specimens were collected at Ntandi, 2300 feet, a male, testes not enlarged, December 8, and a female, July 2, also not in breeding state; bill dull greenish gray, the tip and tomium dusky; iris brown, flecked with gray; feet olive; weight 27 to 30 grams; stomach contents caterpillars and other insects. This cuckoo was previously listed from Bwamba by the van Somerens (1949: 29). A surprising note by the van Somerens informs us that two males showed a number of pale yellowish, freshly grown feathers on the throat. While it is now known that *klaas* and *flavigularis* are sympatric in Bwamba, and while it is considered that they are more closely related to each other than to any other species of the genus *Chrysococcyx*, this observation cannot be looked upon as suggestive of hybridization between them. It is of definite interest, however. It would be advisable for collectors to make a particular effort to note the coloration of new throat feathers in *klaas* away from possible sympatry with *flavigularis*, as it may be that some of these feathers are pale yellowish at first but quickly fade to white, as Williams has found in Kenya birds collected while in moult.

We know that in museum skins even the very bright yellow ventral feathers of males of *C. cupreus* may fade to white.

Chrysococcyx cupreus cupreus (Shaw).

The emerald cuckoo is common in the Bwamba forests. At Ntandi, 2300 feet, three females were collected, July 8, 17, and December 10; all in non-breeding state; bill blue, greenish at base of mandible; iris dark brown; eye skin apple green; feet bluish greenish gray; weight 27, 38, and 45.5 grams (a surprising range); stomach contents caterpillars. The van Somerens (1949: 29) had previously recorded the emerald cuckoo from Bwamba, also.

Chrysococcyx caprius (Boddaert). v. S. 1949: 29.

Ceuthmochares aereus aereus (Vieillot).

Five examples of this species, collected at N. Humia, 2300 feet, December 9; Ntandi, 2300 feet, June 28, November 15, 16; and Rwansenge, July 15, attest to the fact that it is fairly numerous in the Bwamba forest, especially at the periphery of the denser parts of the woods. The specimens were found feeding and skulking among the dense foliage well up in the trees in secondary forest growth; stomach contents caterpillars, beetles, and other insects; bill yellow, black at the base of the culmen; iris dark red; feet black; weights 58 to 63 grams. The June 28 bird showed slight gonadal enlargement; the others all had small gonads. The yellow-billed green cuckoo was also reported from the Bwamba by the van Somerens (1949: 30).

Centropus monachus fischeri Reichenow.

One female was taken at Ntandi, 2300 feet, July 10; ovary small; bill black; iris crimson; feet black; weight 222 grams; stomach contents insect fragments and slugs. The van Somerens (1949: 29) found this coucal to be common around the swamps in the Bwamba.

Centropus superciliosus loandae C. Grant.

Not a forest bird, but found in the adjacent open country. One female was taken in the "Semliki Valley," April 20; it was in non-breeding state. The van Somerens (1949: 30) noted it in the areas at the margin of the forest, chiefly in the bush and scrub country of the Bwamba lowlands.

FAMILY STRIGIDAE

Bubo africanus africanus (Temminck). v. S. 1949: 40.

Bubo lacteus (Temminck).

One female Verreaux's eagle owl was collected at Ntandi, 2300 feet, October 27; ovary not enlarged; bill whitish gray, more bluish gray on the mandible; iris dark brown; eye skin blackish; feet whitish gray. The bird was seen at dusk, sitting on the top of a dead tree flapping its wings and bowing

its head up and down, and simultaneously making a retching sound, as if trying to cough up a pellet of indigestible remains of its last meal. Also recorded from Bwamba by the van Somerens (1949: 40).

Glaucidium tephronotum medje Chapin.

One male, collected at Bundimusuba, 3000 feet, July 11; testes not enlarged. This example was discussed in an earlier paper (Friedmann and Williams, 1968: 14–15), and it is the only specimen record from Bwamba. This owl has also been taken in three other western Uganda localities—the Kibale, Kalinzu, and Impenetrable forests. The specimen had the bill yellow, tinged with greenish on the mandible; iris light yellow; eyelids yellowish; feet orange-yellow; weight 95 grams; stomach contents insect remains and small bones.

Glaucidium castaneum Neumann.

This rarely collected owl was added to the Bwamba avifaunal list, and, indeed, to that of Uganda, when an adult female was taken at Ntandi, 2300 feet, December 8, 1968; ovary not enlarged; bill pale yellowish horn; cere yellow; iris bright chrome yellow; eyelids grayish; feet pale yellow; weight 119 grams; stomach contents entirely beetle fragments. The bird was first noted perching in an ironwood tree as it was being mobbed by small birds. It flew off and was followed and obtained by the collector.

Ciccaba woodfordii nuchalis (Sharpe).

The wood owl was found at Ntandi, 2300 feet, where three specimens were obtained: one adult female with small ovary and one juvenal male on December 10, and one adult male with slight testicular enlargement on November 16; bill dull lemon yellow, the cere with a brownish wash in the female, not in the male; iris very dark brown; feet yellow; weight 269 grams (male), 285 grams (female), 265 grams (young bird); stomach contents grasshoppers and caterpillars. The female is much darker, less rufescent, than the male, especially on the upper parts. The young bird, still with much of the natal down clinging to the new feathers, is very pale. This owl was also noted in Bwamba by the van Somerens (1949: 40).

Asio capensis capensis (Smith).

The African marsh owl does not occur in the true forest, but in the open moist country outside it. The van Somerens (1949: 40) reported one at Bundi-bugyo, and others along the Bwamba road.

FAMILY CAPRIMULGIDAE

Caprimulgus pectoralis nigriscapularis Reichenow.

Williams (1951: 108) collected an adult male in breeding condition and a nestling of this nightjar at Ntotoro, March 13, 1948. Earlier still the van Somerens (1949: 41) found the species at Ntandi.

Caprimulgus tristigma tristigma Rüppell.

The freckled nightjar was added to the Bwamba avifauna by Ridley, Percy, and Percy (1953: 163), who collected one on the road near Mongiro.

Caprimulgus batesi Sharpe.

Two specimens, the first to be taken in Uganda, were collected in Bwamba, one at Ntandi, 2300 feet, June 22, and one at Nkarara, 2200 feet, July 3; both were females in non-breeding condition. These two specimens were discussed in an earlier paper (Friedmann and Williams, 1968: 15). Still earlier, Williams (1951: 111) saw what he thought was this nightjar at Ntotoro, March 18, 1948.

Caprimulgus fossii fossii Hartlaub. v. S. 1949: 41.

Macrodypteryx vexillarius (Gould). v. S. 1949: 41.

FAMILY APODIDAE

Apus melba maximus (O.-Grant). v. S. 1949: 41.

Apus aequatorialis aequatorialis (Von Müller). v. S. 1949: 41.

Cypsiurus parvus myochrous (Reichenow).

Palm swifts were found at Nkarara, 2200 feet, where seven specimens, all in non-breeding state, were taken on June 27 and 28, and at Ntandi, 2300 feet, where one male with large testes was collected December 6; bill black; iris dark brown; feet dark grayish brown; weight 12 to 15 grams; stomach contents small flying ants and other insect fragments. Also recorded from Bwamba by the van Somerens (1949: 41), and by Ridley, Percy, and Percy (1953: 163).

Chaetura sabini Gray.

Three examples, one male, two females, were taken at Ntandi, 2300 feet, October 26 and December 4; all in non-breeding state; bill black; iris dark brown; feet grayish washed with violet; weights 15.5 to 17 grams. The van Somerens (1949: 42) had only sight records by Dr. Haddow. Our present specimens have wing lengths of 122 and 123 mm, and thereby support White's conclusion (1965: 215) that the supposedly short-winged race *ogowensis* cannot be maintained. Recently, in discussing a west Uganda specimen from the Kibale forest, we (1968: 16) did find it to have a very short wing, which seemed to support the recognition of *ogowensis*. This conclusion is certainly upset by the present Bwamba specimens, even though examination again of the Kibale bird confirms its short wing length. Keith (1968: 7) saw this swift quite frequently in the Bwamba forest in July, 1963.

Chaetura ussheri sharpei Neumann.

The mottled-throated spine-tail is reported as ranging east to Bwamba by White (1965: 215), probably on the basis of the records by Williams

(1951: 108), the only ones to date. We have (1968: 16) reported on examples from the Kibale forest, the only other west Ugandan area from which this swift was then known.

FAMILY COLIIDAE

Colius striatus kiwuensis Reichenow.

This coly does not occur in the forest, but is common on its fringes. We have specimens from Bundimusuba, 3000 feet, November 22; Ntandi, 2300 feet, July 16; and Bwamba valley, April 23. Birds taken in all three months showed enlarged gonads. Also reported from Bwamba by the van Somerens (1949: 42).

FAMILY TROGONIDAE

Apaloderma narina brachyurum Chapin.

Two examples of the narina trogon were taken at Ntandi, 2300 feet, December 4 and 9, respectively; both were males in non-breeding state; bill pale yellowish gray, pale yellow on the basal half; iris dark brown; bare skin yellowish apple green with a pale blue wash around the eyes and the gape; feet dull pinkish dark brown; weight 70.5 and 72.5 grams. The van Somerens (1949: 42) found this bird to be scarce ("not much in evidence") although they did collect one at Sara, and noted that Haddow had reported it at Mongiro.

FAMILY ALCEDINIDAE

Ceryle maxima (Pallas). v. S. 1949: 33.

Ceryle rudis rudis (Linnaeus). v. S. 1949: 33.

Alcedo quadribrachys guentheri (Sharpe).

Although the van Somerens (1949: 33) did not meet with this kingfisher along any of the Bwamba streams, our collectors found it to be quite numerous at Ntandi, 2300 feet, where ten specimens were collected in June, July, November, and December, and at Rwansenge, 2200 feet, where two others were taken in July. Some of the June and July birds had enlarged gonads; the November and December ones did not; bill black, whitish at tip; iris blackish brown; feet pale flesh color; weights 25.5 to 39 grams.

One of these shining blue kingfishers was seen at Ntandi, perched on a thin dead root sticking out of the mud bank of a small forest stream; it was quite fearless and permitted the collector to approach within eight yards.

Alcedo leucogaster leopoldi (Dubois)

The use of mist nets has caused a complete change in our estimate of the status of the white-bellied kingfisher. The work of the van Somerens was done without these nets and it is not surprising that they failed to obtain any specimens. The species was first recorded from Bwamba by Williams (1957: 159-160) and later by Friedmann (1966: 22-23) on a single example apiece;

and by Keith (1968: 8). We now have 13 additional specimens from Bwamba, which show that it is common there: Ntandi, 2300 feet, June, July, November and December; Nkarara, 2200 feet, July; mostly in non-breeding state; weights 12 to 16 grams. The bulk of this series has been discussed in an earlier paper by the senior author (1969: 1-6).

Ceyx picta picta (Boddaert).

Common in Bwamba; we have 13 specimens from Nkarara, 2200 feet, June and July; Ntandi, 2300 feet, July, November, December; Rwansenge, 2200 feet, July; mostly in non-breeding gonadal state; weights 11 to 12.5 grams. The pigmy kingfisher had been recorded from Bwamba by the van Somerens (1949: 33) earlier.

Ceyx lecontei (Cassin).

The red-headed pigmy kingfisher is common along the Bwamba forested streams; we have 14 examples from Ntandi, 2300 feet, July, October, November, December; Mongiro, November; Nkarara, July; and Rwansenge, July; all with no or only little sign of gonadal enlargement; weights 11 to 12 grams. Previously reported from Bwamba by the van Somerens (1949: 33) as well.

Halcyon senegalensis (Linnaeus).

The red and black-billed kingfisher is common in Bwamba, as was previously noted by the van Somerens (1949: 34). We have 11 specimens from Ntandi, 2300 feet, June, July, November, December; Mongiro, 2300 feet, November; Nyankiro, 3000 feet, November; Nkarara, 2200 feet, July; and "Bwamba Forest", April. Only the April specimens showed enlarged gonads; their weights ranged from 41 to 62 grams.

Halcyon malimbica malimbica (Shaw).

The van Somerens (1949: 34) considered this species less common in the Bwamba than *H. senegalensis*, but the experience of our collectors was otherwise. They obtained 15 specimens at Nkarara, 2200 feet, June, July; Ntandi, 2300 feet, July, October, December; Mongiro, 2300 feet, November; and Bundimusuba, 3000 feet, November. One June and one November specimen had enlarged gonads; the rest of the series did not; weights 77 to 88 grams.

Halcyon badia Verreaux.

Two specimens of the chestnut-backed kingfisher were collected, an adult male, in non-breeding state, at Ntotoro River, west of Mongiro, 2250 feet, November 5, and an unsexed example on the N. Humia River, 2300 feet, December 9; bill brownish blood red; iris dark brown; eye ring red; feet dark reddish brown; weights 61.5 to 64 grams. The van Somerens (1949: 34) considered it a scarce bird in Bwamba, and only saw it once. The bird collected west of Mongiro was catching insects on the wing about 20 feet in the air,

and was noted as making a purring sound with its wings; the other was about 12 feet up in a tree when seen.

Halcyon chelicuti chelicuti (Stanley). v. S. 1949: 35.

Halcyon leucocephala leucocephala (Müller).

The gray-headed kingfisher was found and collected, one specimen at Mongiro, 2300 feet, November 12, and one at Ntandi, 2300 feet, December 6; weights 41, 42 grams, respectively. Neither was in breeding state. These two suggest that the species is more widely distributed in Bwamba than the van Somerens (1949: 35) suggested when they reported it as restricted to the northern end of Bwamba, toward Sempaya. As they noted, Haddow had recorded it throughout the year, in the open scrubby growth outside the forest.

FAMILY MEROPIDAE

Merops apiaster Linnaeus.

Recorded from Bwamba by Ridley, Percy, and Percy (1953: 163), who noted flocks of 60 or more of these birds in and around the native village at Hakitengya; not in the forest. This bee-eater is, of course, only a winter visitor in the Bwamba area.

Merops superciliosus superciliosus Linnaeus.

Williams (1951: 107) saw several blue-checked bee-eaters and obtained one at Bundibugo, in March 1948. One male, taken at Korongo, Semliki River, by our collectors, July 15, is the only other Bwamba record known to us.

Merops albicollis Vieillot.

Very common in the open country outside the forest in Bwamba. Our collectors obtained specimens at Ntandi, 2300 feet, November 4 to 18; Mongiro, 2300 feet, November 5; Bwamba valley, April 22 to 23. Also reported by the van Somerens (1949: 35). Our examples had weights of from 22 to 25 grams.

Merops pusillus meridionalis (Sharpe).

The van Somerens (1949: 35) considered this little bee-eater as not very common in the open country of Bwamba. Our collectors met with it frequently, and obtained specimens in the Bwamba valley, April 23; Rwansenge, 2200 feet, July 6 to 13; Ntandi, 2300 feet, July 12.

Merops lafresnayii oreobates (Sharpe). v. S. 1945: 35.

Merops gularis australis (Reichenow).

This central African bee-eater is numerous in Bwamba. We have six specimens from Ntandi, 2300 feet, June 21 to 24 and November 10 to 12; all in non-breeding state; bill black; iris red-brown; feet black; weight 29 to 34 grams; stomach contents beetles. Also reported from Bwamba by the van Somerens (1949: 35), and by Williams (1951: 108), and by Keith (1968: 9).

FAMILY CORACIIDAE

Eurystomus glaucurus afer (Latham).

First recorded from Bwamba by the van Somerens (1949: 32), this broad-billed roller has been found to be common and widely distributed there. We have specimens from Nkarara, 2200 feet, June 27; Humia, 2300 feet, July 11; Rwansenge, 2200 feet, July 15; and Nyankiro, 3000 feet, November 25; all our examples were in non-breeding state when collected; weights 116 to 119 grams.

Eurystomus gularis neglectus Neumann.

The blue-throated roller seems to be less numerous in Bwamba than the preceding species. Our collectors met with it only at Ntandi, 2300 feet, where an adult female in non-breeding condition was obtained on June 13. The van Somerens (1949: 32) also found this bird in Bwamba, as did Williams (1951: 107).

FAMILY UPUPIDAE

Upupa epops epops Linnaeus.

The European hoopoe was added to the Bwamba list by Ridley, Percy, and Percy (1953: 163). The bird is, of course, not in the forest, and is only a winter visitor from Europe.

FAMILY PHOENICULIDAE

Phoeniculus bollei jacksoni (Sharpe).

Specimens were obtained at Nyankiro, 3000 feet, November 24, and at Bundimusuba, 3200 feet, November 24 and 27; all with small gonads; bill dull pinkish crimson, horn white at the tip; iris dark brown; bare skin dull red; feet red; weight 48 to 59 grams. The white-headed kakelaar was also reported from Bwamba by the van Somerens (1949: 39-40).

Phoeniculus castaneiceps brunneiceps (Sharpe).

The distribution of the chestnut-headed kakelaar seems to be somewhat local and unpredictable in the forests of western Uganda. Thus, the van Somerens (1949: 40) and Williams (1951: 108), found it in Bwamba while our collectors did not, but obtained a good series in the Bugoma Forest, at only a little greater elevation.

Phoeniculus cyanomelas schalowi (Neumann). v. S. 1949: 40.

FAMILY BUCEROTIDAE

Tockus camurus camurus Cassin.

The red-billed dwarf hornbill is fairly common in the Bwamba forest. Our collectors obtained specimens there on April 22 and 23; at Ntandi, 2300 feet, June, October, November, and December; and at Nkarara, 2200 feet, July 1. None of the specimens were in breeding condition; bill red with black tips; iris cream; feet brownish black; weight 96 to 104 grams for the females,

122 grams for one male. Parties of three birds were seen feeding in the tree tops, and the collectors noted the birds gave a soft *peau* note repeated several times. The van Somerens (1949: 38-39) considered the call of this hornbill as similar to the whimpering of a very young puppy.

Tockus hartlaubi granti (Hartert).

The Congo dwarf hornbill was first reported from Bwamba by the van Somerens (1949: 38). Our collectors obtained further specimens at Bundi-keke, 3000 feet, July 11—a male with enlarged testes; at Ntandi, 2300 feet, November 2; and at Kisuba, 2500 feet, November 2. Bwamba is the only Uganda locality for this hornbill.

Tockus fasciatus fasciatus (Shaw).

A common hornbill in Bwamba, especially in the open portions of the forest and in the clearings adjacent to it. Our collectors obtained examples in Bwamba, April 22 and 23; at Ntandi, 2300 feet, in July and November; at Nkarara, 2200 feet, in June; and at Bundimusuba, 3000 feet, in November; all in non-breeding gonadal condition; weights 227 to 270 grams. The van Somerens (1949: 39) had previously found this bird to be very common in the Bwamba area.

Tockus alboterminalis geloensis (Neumann). v. S. 1949: 39.

(Not in the true Bwamba lowlands; records only from the Sempaya hills above the hot springs.)

Tropicranus albocristatus cassini (Finsch).

Listed from Bwamba by White (1965: 249-250), probably on the basis of the van Somerens' 1949 record (p. 39).

Ceratogymna atrata (Temminck).

The black-wattled hornbill is fairly common in the Bwamba Forest. We have specimens from "Bwamba", April 23; Mongiro, 2300 feet, November 1; Nkarara, 2200 feet, July 2; and Bundimusuba, 3000 feet, July 5. The April specimens have been discussed by the senior author in an earlier paper (1966: 25); the July 2 bird from Nkarara had enlarged testes; the other examples were in non-breeding state; bill dark horn gray, the lower basal half washed with brown, and the tip of the casque pale brown; iris reddish mauve; bare skin pale blue around the eye, the throat black with the edges of the wattle pale blue; feet black; weight 1600 grams. The species was seen in palm swamp forest, and occasionally in small parties flying overhead. The birds were heard giving a repeated croaking *wawoo* sound. This hornbill had been reported from Bwamba by the van Somerens (1949: 38).

Bycanistes fistulator duboisi Sclater.

First recorded from Bwamba by the van Somerens (1949: 36) who found it not uncommon there. Our collectors procured further specimens in

"Bwamba", April 23, and Ntandi, 2300 feet, and at Nkarara, 2200 feet, in late June; all specimens in non-breeding state; bill ivory becoming grayer at the tip; iris dark brown; feet gray, the scales black; weights 413 to 485 grams; stomach contents large seeds and fruit remains. Keith (1968: 9) writes that this hornbill is common in Bwamba.

Bycanistes cylindricus albotibialis (Cabanis and Reichenow).

At Bundimusuba, 3000 feet, July 8, one unsexed example of the white-thighed hornbill was collected. Previously the van Somerens (1949: 37) had recorded it, with extensive field notes, from Bwamba, the first Uganda locality for the species. Since then it has been found there by Ridley, Percy, and Percy (1953: 163) as well, and also in the Budongo Forest (Friedmann, 1966: 25).

Bycanistes subcylindricus subquadratus Cabanis.

The black and white casqued hornbill is common in the Bwamba Forest. We have specimens from Ntandi, 2300 feet, June 22, and from Bundimusuba, 3000 feet, July 8. The van Somerens (1949: 36-37) were the first to record the species from Bwamba.

FAMILY CAPITONIDAE

Lybius bidentatus aequatorialis (Sharpe).

The double-toothed barbet must be quite local and sporadic in its distribution in Bwamba as the 1963 field party of the Knudsen-Machris expedition obtained three examples there on April 23 and 24, but neither our 1967 nor our 1968-69 collectors met with it at all. The van Somerens (1949: 42) apparently knew of it in Bwamba only through Dr. Haddow's observations and specimens.

Lybius hirsutus ansorgii (Shelley).

The Uganda hairy-breasted barbet was collected at "Bwamba" in April; Ntandi, 2300 feet, in June, July, November, and December; at Nkarara, 2200 feet, in July; and at Mongiro, 2300 feet, in November. All the specimens were in non-breeding state; weights 51 to 55 grams. The van Somerens (1949: 42) found this species at other Bwamba sites as well.

Gymnobucco bonapartei cinereiceps Sharpe.

This brown barbet was met with by our field parties only at Bundimusuba, 3000 feet, in July 1967, and again in November 1968. A total of nine specimens, including six females and three males, were collected, only one of which, a male taken on July 11, was found to show gonadal enlargement; weights varied from 50 to 65 grams. The van Somerens (1949: 42) reported the species from other Bwamba localities as well.

Pogoniulus scolopaceus aloysii (Salvadori).

One female was taken at Mongiro, 2300 feet, November 3; a bird in non-breeding state; weight 14 grams. The Uganda speckled tinker-bird would seem to be uncommon in Bwamba as this was the only time our collectors met with it on three separate trips, and as the van Somerens did not include it in their list.

Pogoniulus bilineatus leucolaema (Verreaux).

The yellow-rumped tinker-bird is common in the Bwamba forest, as was first reported by the van Somerens (1949: 43). Our collectors obtained additional specimens at Ntandi, 2300 feet, July 10 to 17, and October 31 to November 20; and at Bundimusuba, 3000 feet, November 22 to 29. A few of the July and of the November examples had enlarged gonads; the majority did not; weights ranged from 10 to 14 grams.

Pogoniulus subsulphureus flavimentum (Verreaux).

The fact that our collectors obtained a series of 16 examples of this tinker-bird at two localities in Bwamba suggests that it must be a common bird there. It is, therefore, surprising that the large collections amassed by the van Somerens years ago failed to include this species. Our present examples are from Ntandi, 2300 feet, July, October, and November; and from Bundimusuba, 3000 feet, November; all were in non-breeding state; their weights varied from 9 to 12 grams.

Pogoniulus atro-flavus (Sparrman).

The red-rumped tinker-bird was added to the Bwamba avifaunal list, and, indeed to that of Uganda, when two specimens were taken at Ntandi, 2300 feet, July 3 and 12, 1967, as reported by us in an earlier paper (1968: 16-17), where further details were given concerning them, and also a sight record by R. W. Smart (Keith, 1968: 9).

Trachyphonus purpuratus elgonensis (Sharpe).

The Elgon yellow-billed barbet was found in a number of places in the Bwamba; at "Bwamba Forest", April 21; at Ntandi, 2300 feet, June 28 and October 26 to November 17; and at Bundimusuba, 3000 feet, July 6 to 12. None of our specimens showed gonadal enlargement; their weights varied from 71 to 85 grams; bill yellow; iris red; bare skin yellow, feet pale olive yellow with gray-black scales. This barbet had also been recorded from Bwamba by Williams (1951: 108) and by Ridley, Percy, and Percy (1953: 163).

FAMILY INDICATORIDAE

Indicator maculatus stictithorax Reichenow.

Bwamba is the easternmost area and the only place in Uganda where the spotted honey-guide is known to occur. The van Somerens were the first to report it from there (1949: 43) thereby adding it to the Uganda avifauna.

Williams (1951: 108) collected a male in full breeding condition in thick forest near Mongiro on March 22, 1948, and the Knudsen-Machris expedition obtained a further example in the Bwamba forest on April 23, 1963. These three records of a single bird each made it seem that this honey-guide was probably uncommon there, but our field teams in 1967 and 1968-1969 collected a long series at Ntandi, 2300 feet, in June, July, October, November, and December; Mongiro, 2300 feet, in November; and Bundimusuba, 3000 feet, in November. Most of the specimens showed little or no gonadal enlargement, but females with swollen ovaries were taken in July and December. The weights of our specimens varied from 39.5 to 51 grams; bill blackish, browner at base of mandible; iris dark brown; bare eye skin olive gray; feet gray with olive scales.

In our surveys in 1967 and 1968-1969, special attention was paid to the honey-guides with results that clearly demonstrate the misleading picture that may easily result from general, more or less random, collecting. This is demonstrated in the present species, for which, as mentioned above, there were only three single records from 1944 to 1963, while in our two surveys no fewer than 24 specimens were obtained. In some of the other honey-guides—*Indicator minor riggenbachi*, *I. conirostris conirostris*, and *I. exilis pachyrhynchus*—the increase in specimen data was even more extensive, and there is no reason to think that any of these species have become more numerous in the Bwamba area since 1963. The van Somerens' 1949 basic report listed two species of honey-guides from Bwamba; we now list nine. The great increase in specimen and species records is due in part to the use of mist nets placed near opened wild bees' nests. It was necessary to procure ample material of some of the species because of the difficulty of distinguishing them in the field, and because of the need to elucidate the status of such sibling species as *I. minor* and *I. conirostris*, and to determine whether *I. exilis* was really all one species or included odd specimens of *pumilio* and possibly of *willcocksii* and *meliphilus*.

Indicator variegatus Lesson.

The scaly-throated honey-guide is sympatric with *I. maculatus* in Bwamba; specimens of both were taken in the same localities and at the same time. The data on *variegatus* are as follows: Ntandi, 2300 feet, June 24 and October 26, one on each date; Mongiro, 2300 feet, November 4 to 7, three specimens; all with small gonads; weights ranging from 47 to 55 grams.

Indicator minor riggenbachi Zedlitz.

This race of the lesser honey-guide and the thick-billed honey-guide, *I. conirostris*, are sympatric in Bwamba, where a most informative series of both were collected. These birds, 25 specimens of *riggenbachi* and 15 of *conirostris*, have been discussed in detail in another paper by the senior author (in press, Proc. 3rd Pan-African Ornithological Congress), and all that need

be stated here is that the Bwamba population of *I. minor* is of the subspecies *riggenbachi*, known earlier from the Ituri forest on the other side of the Semliki, but not reported in print from Uganda; Ntandi, 2300 feet, October to December; Mongiro, 2300 feet, November; and Bundimusuba, 3000 feet, November; most of the specimens had small gonads, but three had enlarged ones; weights ranged from 25 to 31 grams.

Indicator conirostris conirostris (Cassin).

Specimens of the thick-billed honey-guide were taken at Bundimusuba, 3000 feet, July 1, and November 25 and 26; at Ntandi, 2300 feet, October to December; and at Mongiro, 2300 feet, November 8 to 13. Two females taken in late November at Bundimusuba had enlarged ovaries; all the other specimens were in non-breeding plumage. These birds showed a greater range in weight than the preceding species, 25.5 to 38 grams, as compared with 25 to 31 grams in a longer series of *I. minor riggenbachi*. Like the latter group, the present series are discussed in detail in the paper referred to in the account of that taxon. Suffice it to say that the bulky evidence of sympatry of the two forms in Bwamba and their distinctness there as contrasted with the intergradations found in populations in parts of western Africa, leads to the conclusion that *conirostris* first diverged from *minor* in western Africa and that the perplexing population still found in places there is a result of their ancient mixture prior to the achievement of specific status, while in Bwamba *conirostris* and *minor* came together again after their divergence had attained specific rank with the result that there they act as sympatric, but distinct, species.

Indicator exilis pachyrhynchus (Heuglin).

This race of the least gray-breasted honey-guide is very common in the Bwamba forest. A very long series of 68 specimens were collected at Ntandi, 2300 feet, in July, October, November, and December; at Bundimusuba, 3000 feet, in July and November; at Mongiro, 2300 feet, November 5 to 15; and at Humia, 2400 feet, undated. The reason for collecting so many specimens was that there was always a possibility that one of them might turn out to be one of the sibling species closely resembling *exilis*. Of the 68 examples, 47 are adults with white loreal streaks and whitish chins and black gular streaks, while 21 are immature and lack these characters, and have less dusky on the tips of the rectrices and have these feathers a little more pointed at the tip. These young birds vary more than the adults in their ventral coloration, the extremes being almost as different in degree of darkness as are *I. conirostris* and *I. minor riggenbachi*. Most of the specimens had weights of from 15 to 19.5 grams, but one immature female weighed only 12 grams, which is less than some *I. pumilio*, a still smaller bird! The soft parts of this series were noted as follows: bill black, the base of the mandible pinkish gray; iris dark brown; bare skin dark gray; feet olive gray, stomach contents insect frag-

ments and flakes of beeswax. Bwamba specimens average slightly more greenish, less grayish below than a series from the Impenetrable forest, Kigezi, but the difference is small and is not completely constant.

Lest it seem shocking that so long a series of *I. exilis* was collected, especially to readers with only a casual acquaintance with this species in life, whose limited field experience might suggest to them that the species is far from abundant, we may point out an experience reported by one of our collectors. He wrote us that within a matter of six hours no less than 18 honeyguides were seen (12 collected) on a single tree. Of the 12 birds collected, eight were *I. exilis*. Furthermore, it may be noted that much of the forest where this series was collected is now (February 1970) felled and given over to agriculture, and *exilis* is absent now, although common only a short time ago.

Indicator pumilio Chapin.

As we reported in another paper (1968: 18-19), one example of this smallest of the *Indicators* was taken at Ntandi, 2300 feet, July 13, 1967. A reexamination of the specimen does not cause us to question the identification, even though the occurrence of the species at so low an elevation is still surprising.

Melichneutes robustus (Bates).

The lyre-tailed honey-guide may be added to the Bwamba avifauna on the basis of the fact that its distinctive notes have been heard there by Haddow, whose identification was accepted by Chapin. The bird has not been collected in Bwamba as yet, but inasmuch as it does occur in the Iturbi Forest, its presence east of the Semliki in Bwamba is not surprising. (Friedmann, 1955: 237).

Melignomon zenkeri Reichenow.

Only one Bwamba record; Bundimusuba, 3000 feet, July 9, 1967, adult breeding female with enlarged ovary. This specimen has already been discussed by us (1968: 19-20), and also by the senior author (1968) in greater detail.

Prodotiscus insignis insignis (Cassin).

One adult male, in non-breeding state, was collected at the forest edge at Ntandi, 2300 feet, November 4, 1968; bill black; iris dark brown; feet gray; weight 11 grams. The van Somerens (1949: 43) had noted this small honey-guide at Ntandi as well as at other Bwamba localities. It apparently is not uncommon around the perimeter of the forested areas.

FAMILY PICIDAE

Verreauxia africana (Verreaux).

The green piculet is common in Bwamba, which is its easternmost known locus of occurrence. The first two specimens, taken on April 20 and 21, 1963,

were included in an earlier paper (Friedmann, 1966: 28), but since then a notable series of twelve more specimens have been collected at Ntandi, 2300 feet, June 16 to July 6, and November 2; and at Nkarara, 2200 feet, June 28; bill dark horn gray; iris crimson; bare skin around eye dull maroon; feet dull maroon; weights 7.5 to 9.5 grams. Three of the June examples from Ntandi had enlarged gonads; the other specimens had small ones. Keith (1968: 9) has also noted this bird in Bwamba, on the basis of Smart's sight records.

Campethera cailliautii permista (Reichenow).

When the van Somerens (1949: 44) recorded this green-backed woodpecker from Bwamba it was a new bird to the Uganda list as well. Our collectors obtained additional specimens in the Bwamba forest, April 24, one female in breeding condition; Ntandi, 2300 feet, July 16, one non-breeding female, December 8, one non-breeding male; bill horn gray, somewhat grayer on the mandible; iris dark brown; feet olive; weights 49 to 52 grams; stomach contents small beetle larvae.

Campethera caroli (Malherbe).

The brown-eared woodpecker is common in Bwamba; we have 30 specimens from Ntandi, 2300 feet, June, July, October, November and December; Nkarara, 2200 feet, June and July; Bundimusuba, 3000 feet, November; Mongiro, 2300 feet, November; and "Bwamba", April. All our birds had small gonads; bill dull gray; iris dark brown; feet olive; weights 55 to 66 grams (two specimens were marked 44 grams); stomach contents ants, mantis, insect fragments. The van Somerens (1949: 44) also noted this woodpecker in several places in Bwamba; as did Williams (1951: 108).

Campethera nivosa herberti (Alexander).

This woodpecker was found to be not uncommon, and specimens were obtained at Ntandi, 2300 feet, in July, November, and December; at Bundimusuba, 3000 feet, in July; and at Rwansenge in July. All of our nine examples were in non-breeding condition; bill dark horn gray, paler below; iris red-brown; feet olive; weights 31 to 37 grams; stomach contents ants and other insect fragments. This species was not represented in the van Somerens' collection, but was reported from Bwamba by Ridley, Percy, and Percy (1953: 163), and earlier by Williams (1951: 109). This woodpecker often feeds low down in the forest undergrowth; several were taken in mist nets set at ground level.

Dendropicos fuscescens lepidus (Cabanis and Heine). v. S. 1949: 45.

Dendropicos poecilolaemus (Reichenow).

The Uganda spotted woodpecker is a bird of the open, but wooded clearings, rather than of the dense forest. Our collectors obtained one specimen at Bundimusuba, 3000 feet, July 8, and another at Ntandi, 2300 feet, November 3; both in non-breeding state; bill dull silvery gray on maxilla, paler

on mandible; iris dark red-brown; feet olive gray; weights 25 to 29 grams. This species was also noted from Bwamba by the van Somerens (1949: 45).

Dendropicos gabonensis gabonensis (Verreaux).

Two specimens taken at Ntandi, June 15 and 23, are the only specimen records for Bwamba, and for Uganda. They were discussed in our earlier paper (1968: 20).

Mesopicos goertae centralis Reichenow.

A bird of the open woodlands, not of the dense forest, the Uganda gray woodpecker was met with by our collectors but a single time, at Ntandi, 2300 feet, November 20, when they collected one male, in non-breeding state; bill blackish gray, paler at the base of the mandible; iris dark brown; feet dark gray; weight 51 grams; stomach contents small beetles. Also obtained in Bwamba by the van Somerens (1949: 44).

Mesopicos xantholophus (Hargitt).

The golden-crowned woodpecker is common and widely distributed in Bwamba: specimens were taken at Ntandi, 2300 feet, June, July, and December; Bundimusuba, 3000 feet, July and November; and Nyankiro, 3000 feet, in November; all in non-breeding state; bill gray, paler below; iris dark red; feet olive gray; weights 59 to 66 grams; stomach contents insect fragments and, in one case, one spider. Also noted from Bwamba by the van Somerens (1949: 44).

FAMILY EURYLAEIMIDAE

Smithornis rufolateralis budongoensis van Someren.

The red-sided broadbill is fairly common in Bwamba; specimens were taken at Ntandi, 2300 feet, December 7; at Nkarara, 2200 feet, June 29 and July 2; Bundimusuba, 3000 feet, July 16; and Rwansenge, 2200 feet, July 14; two of the July birds having enlarged gonads, the rest small ones; maxilla blackish horn, mandible whitish; iris dark horn; feet pale brown tinged with olive, the toes greener; weight 19.5 to 29 grams; stomach contents ants, small beetles, and other insect remains. At Nkarara and at Bundimusuba individuals were noted flying in small circles above their perches, calling loudly as they did so. The call is a loud *brrr* note. As early as 1951 Williams (112) published a sight record of this broadbill from Bwamba.

FAMILY PITTIDAE

Pitta reichenowi Madarasz. v. S. 1949: 45.

FAMILY HIRUNDINIDAE

Riparia riparia riparis (Linnaeus). v. S. 1949: 79.

Ridley, Percy, and Percy (1953: 164) also noted sand martins in Bwamba.

Riparia cincta cincta (Boddaert). v. S. 1949: 80.

Hirundo rustica rustica Linnaeus.

Ridley, Percy, and Percy (1953: 164) reported very large flocks of barn swallows over the Mongiro swamp in October. The van Somerens (1949: 79) had earlier recorded it from the Bwamba area on the strength of Haddow's observations.

Hirundo angolensis Bocage.

One male, in non-breeding state, was collected at Ntandi, 2300 feet, July 19; weight 17 grams. This was the only time our collectors met with this swallow. The van Somerens (1949: 79) found the species breeding in Bwamba from April to August.

Hirundo senegalensis saturator Bannerman.

The mosque swallow was met with at Ntandi, 2300 feet, where two males, in non-breeding condition, were collected June 2; weights 48 to 50 grams. The van Somerens (1949: 79) had earlier found this species commonly throughout the more open areas of Bwamba.

Hirundo abyssinica unitatis Sclater and Praed.

The lesser striped swallow was found to be common in Bwamba by the van Somerens (1949: 79). Our field party obtained three examples, two of them with enlarged gonads, June 15 to July 9, at Ntandi, 2300 feet; weights 16.5 to 19 grams.

Cecropis daurica emini (Reichenow).

The red-rumped swallow was reported from Bwamba by Ridley, Percy, and Percy (1953: 164), at Hakitengya.

Cecropis semirufa gordonii (Jardine).

Our collectors obtained two examples at Korongo-Semliki, 2200 feet, July 14; weights 20 to 22 mm.; the Knudsen-Machris expedition collected one in Bwamba, April 23, 1963.

Delichon urbica urbica (Linnaeus). v. S., 1949: 80.

Psaltidoprocne pristoptera ruwenzori Chapin. v. S., 1949: 80.

Psaltidoprocne albiceps albiceps Sclater.

Three examples were taken at Ntandi, 2300 feet, July 7 to 19, and November 30; one of the July birds was a male with large testes, the other two were non-breeding females; weights 11 to 12 grams. The van Somerens (1949: 80) found the white-headed rough-winged swallow to be common in the open country in Bwamba.

FAMILY MOTACILLIDAE

Motacilla flava Linnaeus. v. S. 1949: 46.

Motacilla clara torrentium Ticehurst. v. S. 1949: 45.

Motacilla alba vidua Sundevall.

Regular in the open country of Bwamba, whence reported by the van Somerens (1949: 45); Ridley, Percy, and Percy (1953: 163); and by our collectors who obtained several males at Ntandi, 2300 feet, June 24 to July 14, and November 16 to December 2; and one at Mongiro, 2300 feet, on November 8.

Anthus trivialis trivialis (Linnaeus).

One example of this European migrant was taken at Nyankiro, 3000 feet, November 24; obviously not in the forested country.

FAMILY TIMALIIDAE

Trichastoma fulvescens ugandae (van Someren).

Very common in Bwamba, from where we have a long series of specimens, taken in many places during April, June, July, October, November, and December. The van Somerens (1949: 46) reported this thrush babbler as "not uncommon in the undergrowth of the forest but . . . hard to detect . . .", so it would seem that our series must be attributed to the use of mist nets. Although most of our specimens were in non-breeding state, one June bird had large gonads; our examples weighed from 26 to 37 grams (one male was said to weigh only 17 grams, but this may have been an error in writing on the label).

Trichastoma rufipenne rufipenne Sharpe.

This species seems to be uncommon in Bwamba. The van Somerens (1949: 47) encountered it but seldom; Williams (1951: 109) obtained one at Ntotoro, March 19, 1948. In a report on the Knudsen-Machris collection, the senior author (1966: 29) reported three Bwamba examples, but these we now have reidentified as *T. albipectus*. Our collectors in 1967 and in 1968-1969, obtained many examples of that species, but none that may be considered *rufipenne*.

Trichastoma albipectus (Reichenow).

Common in Bwamba; we have many specimens from Ntandi, 2300 feet; Nkarara, 2200 feet; and Bundimusuba, 3000 feet; weights 28 to 34 grams. The fact that this species was not obtained by the van Somerens can only be assumed to have been due to the absence at that time of mist nets as collecting aids. Some of our July birds had enlarged gonads; others did not; none of the October or November specimens showed any gonadal swelling.

Phyllanthus atripennis bohndorffi (Sharpe).

The chestnut babbler was collected in the "Bwamba Forest" April 23; at Bundimusuba, 3000 feet, in July and November; and at Ntandi, 2300 feet, October 28 to November 5; one specimen, October 30, was in breeding con-

dition; the ten others had small gonads; bill pale yellow horn; iris deep red brown; lower eye lid recorded as blackish in one case, yellow in another!; feet pale greenish gray, the claws whitish; weights 67 to 99 grams; stomach contents beetles and other insect remains. The three April specimens are referred to in an earlier paper by the senior author (1966: 29).

Bwamba appears to be the only area in Uganda where this bird is known to occur. It must be a lowland forest species entirely as it is not present in extensive collections from the Kibale, Bugoma, or Budongo areas, all of which are at higher elevations.

FAMILY PYCNONOTIDAE

Pycnonotus barbatus minor Heuglin.

Very common in Bwamba; our collectors obtained specimens at Ntandi, 2300 feet, July, October, November, December; Nkarara, 2200 feet, July. The van Somerens (1949: 48) also found it numerous in the more open forests and in the areas adjacent to the forest cultivated by the natives. None of our specimens had enlarged gonads, although the van Somerens reported eggs for most months of the year. Our specimens had body weights of 39 to 41 grams. In our accounts of this species, and of all the bulbuls, we follow the nomenclature of Rand (1960, *in* Peters, 9: 221-300).

Pycnonotus virens holochlorus van Someren.

This green bulbul is very numerous in Bwamba, where the experience of our field teams agreed with that of the van Somerens (1949: 53) who found it in the taller undergrowth throughout the forested area. Because of the difficulty of distinguishing this species from some of the other bulbuls in life many specimens were taken, as follows: Bwamba Forest, April 20 to 23; Ntandi, 2300 feet, June, July, October, November, and December; Bundimusuba, 3000 feet, July and November; Mongiro, 2300 feet, November. Birds with enlarged gonads were taken in July and November, but others taken at the same time showed no gonadal swelling; weights 18 to 26 grams.

Pycnonotus gracilis ugandae (van Someren).

Another common bulbul in Bwamba; we have a long series of specimens from Ntandi, 2300 feet, June, July, November, and December; Bundimusuba, 3000 feet, July and November; and Bundikeke, 3000 feet, November. Only a single specimen, taken July 18, had enlarged gonads; weights of our 22 specimens ranged from 18 to 26 grams; bill black; iris dark brown; feet olive to olive gray; stomach contents insect remains and small fruits and green berries.

Pycnonotus curvirostris curvirostris (Cassin).

The sombre bulbul must be somewhat erratic, although common, in Bwamba, as our collectors obtained ten specimens at three localities: Ntandi, 2300 feet, Nkarara, 2200 feet, and Bundimusuba, 3000 feet, in 1967, but

failed to meet with the species in 1968-1969. Two of our July birds, from Ntandi, had enlarged gonads, agreeing with the van Somerens' (1949: 52) July breeding record from Ntotoro. The Knudsen-Machris 1963 expedition collected this bulbul in Bwamba as well. Our specimens were noted as having the bill black in the males, dark grayish brown horn with paler tomial edges in the females; iris red-brown to dark brown; feet pale olive to olive gray; weights 19 to 29 grams.

This species and *P. gracilis* are so very similar in appearance that one wonders what isolating mechanism keeps them apart. *P. curvirostris* is usually, but not always, larger (wings 74 to 84 mm.) than *P. gracilis* (65 to 74 mm.), and usually the former lacks pale grayish feathering on the upper and lower eyelids found, as a rule, in the latter, and also *curvirostris* averages less yellowish, more dusky olive, on the abdomen, but all these characters are not completely trenchant. Chapin (1953: 105, 107) did not know any way to distinguish the voices of the two. In the Congo forest Chapin found them together, "... and probably in equal numbers. The habits are the same ..."

Pycnonotus latirostris eugenius (Reichenow).

The Uganda yellow-whiskered bulbul was found by our collectors to be common in the Bwamba lowland forests. It is therefore somewhat surprising that the van Somerens (1949: 53) found it only in the mountain forests of the Ruwenzori slopes at altitudes of from 6000 to 8500 feet. Our 24 specimens were taken as follows: "Bwamba Forest," April 24; Ntandi, 2300 feet, October 28 to December 3, June 16 to July 12; Bundimusuba, 3000 feet, November 21, 22, July 6; and Nkarara, 2200 feet, July 1; weights 19 to 30 grams. One of our November birds had enlarged gonads; all the others showed no enlargement. The van Somerens reported breeding birds in April, July, and August. The soft parts of our series were noted as follows: bill dark brown horn to blackish with tomium yellowish to orange-brown; iris dark brown; feet yellowish horn color.

Pycnonotus gracilirostris chagwensis (van Someren).

The slender-billed greenbul was common and widespread in the higher branches of the trees in Bwamba, where our collectors obtained a dozen specimens at Ntandi, 2300 feet, November 8 to 16, July 13 to 18; Bundimusuba, 3000 feet, July 20 and November 20; and Rwansenge, 2200 feet, July 14; weights 29 to 31 grams; bill black; iris red; feet black; stomach contents insect remains and small fruits. One of the November 20 birds had nest building material in its bill.

Baeopogon indicator indicator (Verreaux).

The white-tailed greenbul was collected at Ntandi, 2300 feet, November 10 to December 10, and June 17 to July 10; at Bundimusuba, 3000 feet, November 20 and July 12; and at Mongiro, 2300 feet, November 8; weights 37.5 to 52 grams. The fact that our collectors were able to obtain a dozen

examples at these places suggests that the species must be fairly common, but the van Somerens (1949: 52) noted very few, and, indeed they had no records for two years, 1944 and 1945. Our birds show a surprising variation in the width of the bill, the narrowest ones apparently not due to the collectors having tied them tightly; the narrowest one is only 3.5 mm broad at the base of the nares, while the broadest one is 7.5 mm or more than twice as wide. The collectors' field notes on our specimens inform us that the bill is black; the iris varying from white to grayish white to pale brownish gray in males, from dark gray to dark brown in females; feet silvery gray to dark gray; stomach contents large black ants, beetles, and small fruits.

Chlorocichla simplex (Hartlaub).

This bulbul is less common than the preceding several species, and was not even recorded in the 1949 list of the two van Somerens. Our collectors obtained two examples at Ntandi, 2300 feet, one on November 24 and one on July 3, and two others at Nkarara, 2200 feet, June 28 and 29; weights 43 grams; bill black, the tomial edges grayish; iris dark brown; feet gray.

Chlorocichla flavicollis pallidigula (Sharpe).

This is another relatively uncommon species in Bwamba, and is an addition to the 1949 list of the two van Somerens. The Knudsen-Machris 1963 expedition obtained two males with enlarged gonads in the Bwamba Forest, April 20 and 23; our 1967 field team collected one at Rwansenge, July 6, while in 1968-1969 the species was not observed. Our specimens had the bill black; iris whitish to cream with a brownish or a pinkish tone; feet gray-brown to blackish; weights 37 to 54 grams; stomach contents insect fragments.

Thescelocichla leucopleura (Cassin).

When the van Somerens (1949: 49) first collected the swamp palm bulbul in Bwamba it was a new bird for Uganda. As indicated in another paper (Friedmann, 1966: 31), the Knudsen-Machris expedition obtained four examples there April 20 to 23. In 1967 our field team collected one at Rwansenge, 2200 feet, July 6, and in 1968-1969 the species was not found at all. It would appear to be somewhat erratic and uncommon in the Bwamba area; weights of our birds ranged from 60 to 65 grams; bill black; iris whitish to cream with a pale pinkish tinge; feet gray-brown; stomach contents insect fragments.

Phyllastrephus scandens orientalis (Hartlaub).

Not listed by the van Somerens, but noted from Bwamba by Rand (1958: 194; 1960: 264). The Knudsen-Machris 1963 expedition obtained several specimens on April 22 to 24 (Friedmann, 1966: 31); our subsequent field teams obtained a series of 18 others at Ntandi, 2300 feet, October 30 to December 9, and June 26 to July 15; at Mongiro 2300 feet, November 8; at

Bumaga, 2300 feet, June 27; and at Nkarara, 2200 feet, on June 29. One of our July Ntandi birds had enlarged gonads, the others were in non-breeding state; weights 30.5 to 44 grams; bill blackish to pale gray horn, the mandible paler than the maxilla; iris creamy brown to deep sepia; feet pale gray; stomach contents insect fragments. The fact that our collectors were able to procure good numbers of this bird and that earlier Rand (1958: 194) had eight Bwamba specimens is evidence that the species is common there.

Phyllastrephus hypochloris (Jackson).

Ntandi, 2300 feet, December 1, 3, two specimens; Nkarara, 2200 feet, July 1, one; Bundimusuba, 3000 feet, November 20 to 24, five examples; weights 19 to 28 grams. We have elsewhere (1969: 26) commented on a series of this olive greenbul from Malabigambo forest, Sango Bay, in which account most of our Bwamba specimens also figured. The collectors noted the soft parts of our birds as follows: bill black to blackish gray becoming whitish along the tomium, and paler on the mandible than on the maxilla; iris brown; feet gray; stomach contents insect remains and a small fruit seed. A pair of the Bundimusuba birds were building a nest in a creeper-covered tree when collected on November 22.

Phyllastrephus lorenzi Sassi.

One specimen of this very rarely collected bulbul was taken at Ntandi, 2300 feet, June 17, 1967, constituting the first record for the species not only in Bwamba, but in Uganda, as pointed out by us earlier (1968: 23). Our 1968-1969 party failed to obtain a second example.

Phyllastrephus fischeri sucosus Reichenow.

Although the van Somerens (1949: 50) collected specimens of this species only above 5000 feet, they wrote that it also occurs at lower elevations. For this reason we include it in the present list of the birds of the Bwamba lowlands. Rand (1958: 210) reports specimen data from "Bwamba Pass".

Phyllastrephus icterinus tricolor (Cassin).

In Bwamba our collectors met with this bulbul only at Ntandi, 2300 feet, where they obtained three specimens June 21 to 27, and one on November 16. A full discussion of these birds as well as of its sympatric sibling, *P. xavieri*, has been given elsewhere by the senior author (1968: 110-112).

Phyllastrephus xavieri xavieri (Oustalet).

This bird is much commoner in Bwamba than is *P. icterinus*. It was collected there by the van Somerens (1949: 50), by the Knudsen-Machris 1963 expedition, and also by our 1967 and 1968-1969 field parties, who took 33 specimens at the following localities: Ntandi, 2300 feet, October 3 to December 9 and June 25 to July 7; at Bundikeke, 3000 feet, November 23; at Mongiro, 2300 feet, November 3; at Nkarara, 2200 feet, June 30; and at Rwansenge, 2200 feet, July 14; weight 18 to 29 grams. Of all these individuals

only two, taken on June 30 at Nkarara and on July at Ntandi, showed gonadal enlargement. A fuller discussion of this species is given in the paper referred to under *P. icterinus*.

Bleda syndactyla woosnami Ogilvie-Grant.

The bristle-billed bulbul is common in the Bwamba forest, as indicated by 21 specimens taken at Ntandi, 2300 feet, October 13 to November 17 and June 15 to July 3; at Mongiro, 2300 feet, November 5; at Bundimusuba, 3000 feet, November 20 and July 6 to 9; at Rwansenge, 2200 feet, July 19; at Nikara, 2200 feet, June 29; and "Bwamba Forest", April 21 to 24. It was reported earlier from Bwamba by the van Somerens (1949: 48) who considered it rather scarce although they noted it at several places. Our series had weights of from 29.5 to 51 grams. The minimum weight given may be an error for 39.5, as a series from the Malabigambo forest (Friedmann and Williams, 1969: 27) ranged in weight from 40 to 47.5 grams; bill dull dark gray, paler on the mandible; iris dark red to dark red-brown; feet pale grayish with a pinkish or a brownish tinge; stomach contents caterpillars, beetles, and other insect fragments.

Bleda eximia ugandae van Someren.

The yellow-tailed bristle-bill is common and sympatric with *B. syndactyla* in Bwamba, although it apparently eluded the collectors working for the van Somerens. We have 15 specimens from the following localities: Ntandi, 2300 feet, November 12 to 18 and July 6 to 12; Nkarara, 2200 feet, June 29 and 30; Bundimusuba, 3000 feet, July 6; and Rwansenge, 2200 feet, July 16 to 19; weight 35 to 41 grams; bill dark gray to blackish, paler below and on the tomium; iris cream yellow to lemon yellow; feet gray; stomach contents grasshoppers, beetles, and other insect fragments.

Nicator chloris (Valenciennes).

This species is common in Bwamba. The van Somerens (1949: 81) were the first to record it there, and the Knudsen-Machris 1963 expedition obtained five examples with enlarged gonads April 21 to 23. Our 1967 and 1968-1969 field teams obtained 24 others as follows: Ntandi, 2300 feet, October 30 to December 6, and June 16 to July 13; Mongiro, 2300 feet, November 1 to 11; Bundimusuba, 3000 feet, November 20; Nkarara, 2200 feet, June 27; and Rwansenge, 2200 feet, July 6; weights 36 to 52 grams; bill black to blackish horn, the gape pale yellow; iris dark brown to deep grayish buff; feet bluish gray; stomach contents caterpillars, beetles, and other insect fragments.

Nicator vireo Cabanis.

This smaller species of *Nicator* exists sympatrically with its larger relative, *N. chloris*, throughout Bwamba. The Bwamba area appears to be the eastern limit of the range of *N. vireo*, while *N. chloris* extends eastward at least to the Uganda-Kenya border. Rand (1958: 217) had two Bwamba

specimens of *N. vireo* when writing his paper. The Knudsen-Machris 1963 expedition collected two April 20 and 23; our later field parties took two more specimens, one at Bundimusuba, 3000 feet, November 22, and one at Rwansenge, 2200 feet, July 15; weight 26 grams. We also have one taken at Ntotoro, 2250 feet, in March. Soft parts: bill grayish brown, basally paler; iris brown to grayish brown; feet gray; stomach contents orthoptera, beetles, and other insect fragments.

Criniger barbatus weileri Gyldenstolpe.

Robert Glen collected an adult female of this "bearded" bulbul in Bwamba Forest, 3500 feet, January 20, 1966; the specimen is now in the collection of the Western Foundation of Vertebrate Zoology (no. 18352); bill brown; iris brown; feet gray; stomach contents insect and fruit remains. This appears to be the first record for this species in Uganda. That it should occur in Bwamba is not surprising, although it must occur only in the few unexploited portions of the forest. Chapin (1953: 131) wrote that in the Congo in, "... the Ituri and Semliki forests it is very particular as to haunts. Only in wide stretches of unspoiled forest may one hope to see or hear the bird..." Our identification of this specimen to the subspecies *weileri* is based on the fact that Chapin included the Semliki Forest in the range of that race; we have seen no comparative material. The specimen is in fairly fresh plumage.

Criniger calurus emini Chapin.

This white-throated bulbul is very common in Bwamba, as attested by a long series of specimens from "Bwamba," 2600 feet, April; Ntandi, 2300 feet, June, July, November; Rwansenge, 2200 feet, July; and Bundimusuba, 3000 feet, November. In studying these birds we have had the advantage of a series of both *C. calurus* and *C. ndussumensis*, identified by Rand, loaned to us by the Field Museum. The two are said to be almost identical but *ndussumensis* supposedly has the bill somewhat more slender, the loreal area grayish or grayish white, the flanks somewhat more dusky green, and the undertail coverts more buffy yellow. These characters do not hold with complete constancy even in the two series identified by Rand, but all our Bwamba birds seem to be *C. calurus emini*. Of the 35 specimens, 4 have fairly grayish loreal areas but these do not have particularly narrow bills; one that has a bill as narrow as any of the *ndussumensis* has no grayish on lores. All of our specimens have the rectrices dusky russet edged with greenish; in fresh plumage the edges are more extensive, giving the feathers a more greenish, less russet look; all have the undertail coverts greenish yellow, not buffy yellow. It should be noted that our April "Bwamba" birds were published as *ndussumensis* (Friedmann, 1966: 32, following van Someren, 1949: 48). All of our specimens were in non-breeding state; bill blackish on maxilla, bluish gray on mandible, with whitish tomial edges; iris chocolate brown to reddish; feet

bluish gray; weight 23 to 31 grams; stomach contents small insects, fruits, and seeds. In spite of the fact that both *calurus* and *ndussumensis* are both supposed to occur in the forests of the Semliki valley, we know of no indubitable *ndussumensis* from Bwamba. Chapin (1953: 132-136) called both taxa races of the same species and treated all the Semliki birds, with which the Bwamba population should be in agreement, as *ndussumensis*. We cannot see any difference between the two taxa as far as their rectrices and their upper coverts are concerned.

FAMILY CAMPEPHAGIDAE

Campephaga phoenicea (Latham).

The situation in Bwamba of this cuckoo-shrike is highly peculiar and puzzling. The van Somerens (1949: 80) reported only *flava*; we have three examples that are clearly *flava*, but we also have one adult male *phoenicea* with bright red shoulder patches! If this were to be interpreted as sympatry (none of the birds, however, were in breeding condition when collected), it would raise the question as to the specific distinctness of *phoenicea* and *flava*, a question that cannot be decided on such scanty material. The only other interpretation would be to assume the male *phoenicea* was a wanderer from northern Uganda, where that form is known to occur. This is the interpretation we are following here. The male *C. p. phoenicea* was taken at Mongiro, 2300 feet, on November 12; the specimens of *C. p. flava*, one male, one female, one probable female, were taken at Bundimusuba, 3000 feet, July 8 to 11.

Aside from the fact that we have here two races of the same species, it is of interest to note that the Bundimusuba birds are definitely *flava* and not *petiti*, the race that occurs in the Kibale Forest. The male has the inner webs of the remiges clearly tinged with olive green as in several *flava* from Kenya, not blackish like the rest of the feathers as in *petiti*; the two females have the underparts white, marked with wavy transverse black bars as in *flava* from the Samburu district, Kenya, and not yellow as in *petiti*. One of them has some yellowish areas on the breast and upper abdomen, but is still predominantly white below.

The male *C. p. phoenicea* weighed 29 grams, the three *flava* 30 to 34 grams; in the males of both the bill was black (blackish horn in the females of *flava*); iris dark brown; feet blackish. The red shouldered male was watched when it was catching insects on the wing as it moved through the undergrowth.

FAMILY MUSCICAPIDAE

SUBFAMILY MUSCICAPINAE

Muscicapa striata striata (Pallas).

The spotted flycatcher of Europe is only a winter visitor to the open country of Bwamba, where it was first recorded by Ridley, Percy and Percy

(1953: 164). Our collectors obtained another specimen at Bundimusuba, 3000 feet, November 22.

Muscicapa aquatica infulata Hartlaub. v. S., 1949: 54.

Muscicapa caerulescens brevicauda Ogilvie-Grant.

Fairly common in Bwamba, whence we have ten specimens from Ntandi, 2300 feet; Nyankiro, 3000 feet; Nkarara, 2200 feet; and Bundimusuba, 3000 feet; taken in June, July, November, and December; bill black, the basal part of the mandible paler bluish gray; iris dark brown; feet brownish gray to gray; weights 15 to 19 grams; stomach contents insect fragments. At Nkarara, June 28, a nearly fully grown young bird in juvenal plumage was collected together with an adult female, probably a recent fledgling with its mother. The van Somerens (1949: 54) noted this flycatcher in Bwamba and found that, while predominantly insectivorous, it does eat berries as well.

Muscicapa griseigularis Jackson.

The gray-throated flycatcher was first reported from Bwamba by the van Somerens (1949: 54), who found it was not numerous there. Our collectors obtained four specimens at Ntandi, 2300 feet, November 17, and at Bundimusuba, 3000 feet, July 7, and November 26; bill black paling to grayish horn on the mandible; iris dark brown; feet dark blue-gray; weights 11.5 to 14 grams; stomach contents beetle larvae and other insect fragments.

Muscicapa comitata (Cassin).

Seven specimens; Bundimusuba, 3000 feet, November 22, and Ntandi, 2300 feet, July 15 to 22, and November 14 to 28; bill black; iris dark brown; feet gray to black; weights 13 to 15 grams; stomach contents insect remains. This flycatcher was found along a forest road, not deep in the forest according to the experience of the van Somerens (1949: 54-55), but it is a true forest species nearly always found along streams, where it perches on stones sticking up out of the water, or on roots, and dead branches hanging over the water.

Muscicapa infuscata (Cassin). v. S., 1949: 55 (as *Artomyias fuliginosa*).

Myopornis plumbeus plumbeus (Hartlaub). v. S., 1949: 60.

Megabyas flammulata aequatorialis Jackson.

Specimens of this flycatcher were obtained at Ntandi, 2300 feet, and at Nkarara, in June, July, and November; all in non-breeding state; bill black; iris red to brown; feet pale maroon to dull maroon; weight 26 to 30 grams; stomach contents insect fragments. All of our six specimens are females.

Bias musicus musicus (Vieillot).

In the experience of our collectors this black and white flycatcher was uncommon and local; it was found only at Ntandi, 2300 feet, where two examples were obtained October 29 and December 7. In contrast, the van

Somerens (1949: 56) found it to be common in the more open parts of the forest. Our birds had the bill black; iris yellow; feet pale yellow in one and pale olive brown in the other; weight 21 grams; stomach contents insect fragments.

Platysteira cyanea nyansae Neumann.

The absence of this species in our collection is surprising in view of its abundance in Bwamba, according to the van Somerens' experience (1949: 56).

Platysteira castanea castanea Fraser.

The chestnut wattle-eye is very common in the Bwamba forest. A long series of specimens was collected at Ntandi, 2300 feet, June, July, October, November, and December; at Bundimusuba, 3000 feet, in July and November; and at Rwansenge, 2200 feet, in July; bill black; iris dark brown; wattles dull maroon in males, deep purple to mauve maroon in females; feet dull maroon to deep purple; weight 11 to 16 grams; stomach contents insects. According to the van Somerens (1949: 56-57) this wattle-eye frequents chiefly the lower trees and the tall undergrowth in the forest, an observation agreeing with what our collectors found as well.

Platysteira blissetti jamesoni (Sharpe).

The van Somerens (1949: 57) considered Jameson's wattle-eye less numerous in Bwamba than the preceding species, but our collectors found it to be very common and obtained many specimens at "Bwamba Forest," April; Ntandi, 2300 feet, June, July, October, November, December; Bundimusuba, 3000 feet, July and November; Rwansenge, 2200 feet, July; Bumaga, 2300 feet, June. Two of our specimens, taken on June 28, had much enlarged gonads; the others were definitely not in breeding condition; bill black; wattles turquoise blue; iris maroon to dark brown; feet maroon to purplish maroon; weights 9 to 12 grams; stomach contents insects.

Platysteira concreta graueri (Hartert). v. S., 1949: 57.

Trochocercus longicauda teresitus (Antinori).

The van Somerens (1949: 58) found the blue fantail flycatcher common in cultivated areas adjacent to the forest. Carcasson collected a male in the Bwamba lowlands on May 23, 1956; the specimen is now in the collection of the Western Foundation of Vertebrate Zoology.

Trochocercus nitens nitens Cassin.

The experience of our collectors showed the blue-headed crested flycatcher to be common and wide-spread in Bwamba, in contrast to that of the van Somerens (1949: 58) who considered it rather scarce. We have some 15 specimens from the following localities: Ntandi, 2300 feet, June, October, November; Mongiro, 2300 feet, November; Bundimusuba, 3000 feet, July, November; Bundikeke, 3000 feet, July; and Rwansenge, 2200 feet, July; bill

grayish blue with blackish tip; iris dark brown; feet gray blue; weights 10 to 12.5 grams; stomach contents insect fragments. Birds with enlarged gonads were taken on July 8 (a female with a well-developed, but still unshelled, egg), November 16 and 22. The van Somerens reported a nest and eggs in April, so it would seem that the breeding season is prolonged.

Trochocercus nigromitratus (Reichenow).

Not as common as the last species, this flycatcher is represented in our collections by seven specimens: "Bwamba Forest", April 21, 22; Ntandi, 2300 feet, June 24, July 3, November 16; Bundimusuba, 3000 feet, July 9; bill black; iris dark brown; feet deep blue-gray to blackish gray; weights 9 to 10.5 grams; stomach contents insects.

Terpsiphone rufiventer somereni Chapin.

The red-bellied paradise flycatcher is very common in the fairly open forests of Bwamba. The van Somerens (1949: 59) found it outnumbered the other species of paradise flycatchers there, as did our collectors as well. Ridley, Percy, and Percy (1953: 164) also noted it there. We have a long series of specimens from "Bwamba Forest," 2600 feet, April; Ntandi, 2300 feet, June, July, October, November, and December; Nkarara, 2200 feet, June and July; Bumaga, 2300 feet, July; Mongiro, 2300 feet, November; Bundimusuba, 3000 feet, November; and Rwansenge, 2200 feet, July; bill cobalt blue, the tip and the tomium black; iris dark brown; feet dark blue-gray; weights 13 to 19 grams; stomach contents insects.

Terpsiphone viridis ferreti (Guerin).

This paradise flycatcher, with its great variety of plumage colors, is widely distributed in the Bwamba lowlands. One of our present series, from Nyankiro, has the back and long tail feathers white; the others are in the brown or so-called "normal" plumage. We are in agreement with Chapin's (1963) conclusions about the nature of the perplexing color phases of this bird, and no further comment is called for at this point. We have a long series of specimens from: "Bwamba Forest," April; Rwansenge, 2200 feet, July; Korongo, Semliki river, 2200 feet, July; Ntandi, 2300 feet, November and December; Bundimusuba, 3000 feet, November; and Nyankiro, 3000 feet, November; bill pale blue with the tip and tomium blackish; iris dark brown; feet blue-gray; weight 11 to 16 grams; stomach contents insect remains.

Terpsiphone batesi Chapin. v. S., 1949: 59.

Hyliota slatini Sassi. v. S., 1949: 53.

SUBFAMILY TURDINAE

Erythropygia hartlaubi Reichenow.

The brown-backed scrub-robin is found in the cultivated areas just out-

side the Bwamba forests. One example was taken there April 22. The van Somerens (1949: 66) found it numerous there many years earlier.

Erythropygia leucosticta collii Alexander.

One record, a subadult male taken in Bwamba Forest, July 23, 1960, by Twomey (Keith and Twomey, 1968: 545).

Erithacus cyornithopsis lopezi (Alexander).

Our collectors found this species only at Ntandi, 2300 feet, November 11 to 20, where they obtained four specimens, all in nonbreeding condition; bill black, the base of the mandible yellowish; iris dark brown; feet silvery gray; weight 17 to 19 grams; stomach contents insects and small snails. This is an extremely illusive denizen of the dense, virgin forest, and would be very difficult to collect without the use of mist nets. This may account for its absence in the van Somerens' list.

Erithacus erythrorax mabirae (Jackson).

The little forest robin was very common in the forests of Bwamba; a long series of specimens was taken at "Bwamba" April 19 to 25; Ntandi, 2300 feet, October, November, December, June, and July; Mongiro, 2300 feet, November 3 to 17; Bundimusuba, 3000 feet, November 21 to 29; and Nkarara, 2200 feet, June 29, July 1. Three of the July birds had enlarged gonads; one of the April specimens was a partly grown young bird. In an earlier paper (Friedmann, 1966: 36) it was pointed out that this young bird, hardly more than a week out of the nest, had the chin, throat, and much of the abdomen pale yellow, not "creamy white" as described in the literature. This difference must be due to post-mortem fading, as the same specimen is now less yellowish, more whitish than it was five years ago. Our series of adults ranged in weight from 11 to 19 grams; bill black; iris dark brown; feet grayish violet to grayish pink; stomach contents insect remains.

The van Somerens did not include this species in their report. Its absence there and its abundance in our more recent collections is an indication of the great advantage of mist netting in making faunal surveys, especially as far as the birds of the undergrowth are concerned. Our collectors repeatedly released many individuals of the present and other species when they already had adequate samples from each locality. Although very common, this robin is seldom observed because of its excessive shyness.

Cossypha natalensis intensa Mearns.

Common at Mongiro, 2300 feet, November 3 to 8, when eight specimens were collected, four of them with enlarged gonads; bill black; iris dark brown; feet pinkish gray; weight 29 to 37 grams; stomach contents insects.

Cossypha cyanocampter barteloti Shelley.

The blue-shouldered robin chat was found to be common and widespread in the lowland forest, our collectors having the same experience with it

as did the van Somerens (1949: 63). We have specimens from Bwamba, April 24; Ntandi, 2300 feet, June, July, October, and November; Bundimusuba, 3000 feet, July 6 to 10, November 22 to 29; and Rwansenge, 2200 feet, July 15. Some of the July birds had much gonadal enlargement, the others did not; bill black; iris dark brown; feet brownish black; weight 23.5 to 30 grams; stomach contents chiefly small insect remains, one small snail in one instance.

Cossypha niveicapilla (Lafresnaye).

The snowy-headed robin chat was obtained in the Bwamba Forest on April 21 by the Knudsen-Machris expedition of 1963, but was not found again by our field parties in 1967 or in 1968-1969. This is surprising in view of the fact that the van Somerens (1949: 63) encountered it in most parts of the forested areas.

Alethe diademata woosnami Ogilvie-Grant.

Our collectors found the fire-crested alethe to be very numerous, and obtained a long series of specimens from "Bwamba," April 20 to 21; Ntandi, 2300 feet, June, July, November, and December; Bundimusuba, 3000 feet, November; Mongiro, 2300 feet, November; Bumaga, 2300 feet, June 27; Nkarara, 2200 feet, June 28; Ntotoro, 2250 feet, March 6. The experience of the van Somerens (1949: 64) was quite otherwise, as they met with this bird in only one place in Bwamba. Williams (1951: 109) obtained this thrush in Bwamba as well. None of our specimens were in breeding condition; bill black; iris dark brown; feet gray; weight 28 to 34 grams; stomach contents largely beetles, some other insect remains, and in one case, a small snail.

Alethe poliocephala carruthersi Ogilvie-Grant.

As in the preceding species, the van Somerens (1949: 64) found this thrush scarce while our field parties met with it frequently and obtained a long series of specimens at "Bwamba," April 29 to May 5; Ntandi, 2300 feet, June, July, October and November; Mongiro, 2300 feet, November 5 to 7; Bundimusuba, 3000 feet, July 6, November 22 to 24; Nkarara, 2200 feet, June 28 to July 1; and Rwansengi, 2200 feet, July 14 to 16. One of the late June birds from Ntandi had enlarged gonads; all the other examples were in non-breeding condition; bill black; iris reddish brown to dark brown; feet pale pinkish flesh; weight 21.9 to 31 grams; stomach contents insect remains.

Stizorhina fraseri vulpina Reichenow.

Both our collectors and the van Somerens agreed in finding the rufous flycatcher-thrush to be common and widespread in the Bwamba Forest. We have many specimens from Ntandi, 2300 feet, June, July, October and November; Bundimusuba, 3000 feet, November 22; Mongiro, 2300 feet, November 11 to 16; Nkarara, 2200 feet, June 27 to July 1; birds with enlarged gonads were taken in June and in November; bill black; iris dark brown; feet brown; weight 27 to 37 grams; stomach contents insects.

Neocossyphus rufus gabonensis Neumann.

Not as numerous as *Stizorhina*, or as the next species, but not uncommon in the Bwamba. Our collectors obtained eight examples at Ntandi, 2300 feet, June 29, November 6 to 19; at Mongiro, 2300 feet, November 4 to 12; and at Nkarara, 2200 feet, July 1. Two of them, taken June 29 and mid November, had enlarged gonads; the others were in non-breeding condition; bill black; iris dark brown; feet pale pinkish gray; weight 55 to 72 grams; stomach contents beetles and other insects. The van Somerens (1949: 65) also found this bird to be relatively scarce.

Neocossyphus poensis praepectoralis Jackson.

In contrast with the experience of the van Somerens (1949: 65) who met with this ant thrush only twice, our collectors obtained a long series of specimens as follows: Bwamba Forest, April 21 to 25; Ntandi, 2300 feet, June, July, November; Mongiro, 2300 feet, November 4 to 8; Bundimusuba, 3000 feet, July 6, November 2; Nkarara, June 30; birds with enlarged gonads were taken June 30 and July 5; the others were in non-breeding state; bill black; iris dark brown; feet pinkish white; weight 42 to 51 grams; stomach contents largely beetles but also some other insect fragments.

Saxicola rubetra (Linnaeus). v. S., 1949: 67.*Saxicola torquata axillaris* (Shelley). v. S., 1949: 67.*Thamnolaea cinnamomeiventris subrufipennis* Reichenow. v. S., 1949: 67.*Zoothera oberlaenderi* (Sassi).

We have a single example of this rare thrush, an adult female, with an enlarged ovary, taken at Ntandi, 2300 feet, on July 17, as discussed by us in an earlier paper (1968: 27). Keith (1968: 10-11), and Keith and Twomey (1968: 544) have reported on the other few Bwamba records of this species, which have also been discussed by Prigogine (1965: 242).

Turdus olivaceus centralis Reichenow.

This thrush is common in the cultivated clearings at the edges of the forested areas. In addition to three birds with enlarged gonads, taken April 21 to 23, by the 1963 Knudsen-Machris expedition (Friedmann, 1966: 38), we have six other specimens taken at Ntandi, 2300 feet, June 15 to 21, and November 1; and Mongiro, 2300 feet, November 8. The van Somerens (1949: 61) also reported this bird from the Bwamba lowlands. Our specimens had weights of 65 to 66 grams.

SUBFAMILY SYLVIINAE

Acrocephalus natalensis niloticus (Neumann). v. S., 1949: 67.*Chloropeta natalensis massaica* Fischer and Reichenow. v. S., 1949: 60.

Sphenoeacus mentalis mentalis (Fraser).

Four specimens of this large warbler were obtained: Nkarara, 2200 feet, June 27, July 2; Korongo, Semliki River, 2200 feet, July 14; and Rwansenge, 2200 feet, July 15; bill black with the tomial edges whitish gray; iris pale orange to Naples yellow; feet blue-gray to brownish gray; weight 29 to 40 grams; stomach contents small insect fragments. We are following White in considering *Melocichla* the same as *Sphenoeacus*, but with less than complete assurance that they are congeneric.

Sylvia borin (Boddaert).

At Ntandi, 2300 feet, November 11 to 16, this European winter visitor was found in the open country adjacent to the forest and three examples were collected; weight 19 to 25 grams.

Phylloscopus trochilus trochilus (Linnaeus).

The common willow warbler of Europe winters in most parts of Africa, and the cultivated areas of the Bwamba lowlands are no exception. At Ntandi, 2300 feet, November 1 to December 3, four specimens were taken; weight 8.5 to 10 grams.

Cisticola erythrops sylvia Reichenow. v. S., 1949: 67.*Cisticola galactotes amphilecta* Reichenow.

This grass warbler was found in the grass and scrub outside the forest at Nkarara, 2200 feet, June 27, and Rwansenge, 2200 feet, July 6. The Nkarara bird was in breeding condition; the other had small gonads; bill black on the maxilla, pale gray on the mandible; iris light brown; feet pale brown; weight 17 and 18 grams, respectively; stomach contents insects. Also reported as common in Bwamba by the van Somerens (1949: 68).

Cisticola carruthersi Ogilvie-Grant. v. S., 1949: 68.*Cisticola natalensis strangei* (Fraser).

Two examples of this grass warbler were taken at Nkarara, 2200 feet, June 27 and 29; bill blackish, the mandible lighter—more grayish; iris buff brown; feet pale whitish flesh to pale flesh brown; weight 21.5 to 34 grams (a surprising range for two specimens!); stomach contents insects, including a beetle and a grasshopper.

Cisticola brachyptera brachyptera (Sharpe).

One of this species was taken in the same place and date as one of the preceding one, Nkarara, 2200 feet, June 27; bill blackish on the maxilla, pale gray on the mandible; iris buff brown; feet pale flesh horn; weight 8.5 grams; stomach contents insects.

Prinia subflava melanorhyncha (Jardine and Fraser).

This long-tailed warbler was met with only at Nkarara, 2200 feet, June

27, when two examples were obtained, both with small gonads; bill black, gray at the base; iris light brown; feet pale flesh brown; weight 8 to 8.5 grams; stomach contents insects. The van Somerens (1949: 68) found it to be a common bird in the cultivated clearings in the Bwamba lowlands.

Prinia leucopogon reichenowi (Hartlaub). v. S., 1949: 68.

Prinia bairdii obscura (Neumann).

The banded long-tailed warbler appears to be uncommon, or at least local, in Bwamba. The van Somerens (1949: 68) had only a single specimen; our collectors obtained two at Ntandi, 2300 feet, one on June 15 and the other on November 14; bill black; iris yellow ochre to light brown; feet silvery gray; weight 14 to 16 grams; stomach contents small beetles.

Apalis rufogularis nigrescens (Jackson).

The van Somerens (1949: 68-69) refer to the red-throated forest warbler as the, "... common *Apalis* of the lowland forests ...", but it was the only member of its genus that they or our field teams found there, the other nearby species of the genus being montane birds of the Ruwenzori slopes. We have seven specimens, six from Ntandi, 2300 feet, June 19 to July 19, and December 4; and one from Nkarara, 2200 feet, July 1. All were in non-breeding condition; bill black; iris brown; feet orange-brown to flesh gray; weight 7.5 to 9 grams; stomach contents small insects. All the males the van Somerens collected in July (some at Ntandi) had enlarged gonads, unlike our birds.

Eminia lepida Hartlaub. v. S., 1949: 72.

Bathmocercus cerviniventris vulpinus Reichenow.

Common in the Bwamba Forest. Our collectors took specimens at Ntandi, 2300 feet, June 18 to 24; Nkarara, 2200 feet, June 28 and 29; Tokwe River, 2200 feet, June 28; Bundimusuba, 3000 feet, July 6 and November 23, while the Knudsen-Machris expedition collected three examples in the Bwamba Forest, March 4 to April 23, 1963. A bird taken on July 6 at Bundimusuba, had enlarged gonads; the others were in non-breeding condition; bill black; iris brown; feet gray; weight 14 to 21 grams; stomach contents insects.

Camaroptera superciliaris (Fraser).

Fairly common; we have two specimens from each of three localities: Bundimusuba, 3000 feet, July 2; Korongo, Semliki River, 2200 feet, July 14; and Ntandi, 2300 feet, November 27 and December 10. One of the July 14 birds was in breeding condition; the other specimens showed little or no gonadal enlargement; bill black; iris dark brown; feet grayish brown to dark brown, the toes paler; weight 9 to 11 grams; stomach contents insects.

Camaroptera chloronota toroensis (Jackson).

A very common bird along the forest edges. We have a long series: Ntandi, 2300 feet, June 16 to July 17, and October 31 to November 20; Bundimusuba, 3000 feet, July 7 to 12, and November 20 to 25; Mongiro, 2300 feet, November 4; Bumaga, 2300 feet, July 6 and 7; Rwansenge, 2200 feet, July 13 and 14; and Bwamba Forest, April 22 to 24; bill black; iris dark brown; feet black; weight 9 to 12 grams (one bird marked 18 grams); stomach contents insects. The van Somerens (1949: 71) also found this species frequently at the margins of the Bwamba woodlands. None of our birds showed any seasonal gonadal swelling.

Camaroptera brachyura tinctoria (Cassin).

This species was also common, but was more in the cultivated areas just outside the forest than the preceding one. Specimens were obtained at Nkarara, 2200 feet, June 28 to July 7; Ntandi, 2300 feet, July 2, November 16 to 19; Rwansenge, 2200 feet, July 13; Mongiro, 2300 feet, November 5; and Bundimusuba, 3000 feet, November 21; of these birds, four, taken in early July and mid November, had swollen gonads; the others were in non-breeding condition; bill black; iris light brown; feet flesh color; weight 10 to 13 grams; stomach contents small insects.

Eremomela badiceps badiceps (Fraser).

The rufous-crowned eremomela was met with by our collectors only once, at Ntandi, 2300 feet, November 11, when a single example in breeding state was obtained. This is quite different from the experience of the van Somerens (1949: 69) who had specimens from at least four Bwamba localities and saw up to a dozen birds on one occasion. Our specimen had the bill black; iris dark brown; feet flesh brown; weight 10 grams; stomach contents small caterpillars.

Sylvietta virens baraka Sharpe.

Our field teams found this little crombec to be common and widely distributed in the lowland forest. Specimens were taken at Ntandi, 2300 feet, June 15 to July 11, and December 8; Nkarara, 2200 feet, June 27; Bumaga, 2300 feet, July 2; and Bundimusuba, 3000 feet, November 20; bill dark to pale horn brown, paler on the mandible; iris light brown to buff brown; feet pale buff brown; weight 8 to 10 grams (one marked as only 5 grams); stomach contents insects. This species was found by the van Somerens (1949: 70) to be common chiefly in the undergrowth and among creepers.

Macrospheus flavicans hypochondriacus (Reichenow).

This race of the yellow longbill is common in the Bwamba woodlands. We have some ten specimens: Ntandi, 2300 feet, June 27, July 17, October 30 to December 1; Nkarara, 2200 feet, July 1; Bundikeke, 3000 feet, November 23; Bundimusuba, 3000 feet, July 7, November 20 and 21; bill black with the

tomium and the tip and under side whitish; iris yellow; feet blue-gray; weight 12.5 to 15.5 grams; stomach contents seeds.

Hylia prasina prasina (Cassin).

The green hylia was found to be very common, and a long series of specimens was taken: "Bwamba," April 20 to 23; Ntandi, 2300 feet, June 15 to July 16 and October 28 to December 4; Bundimusuba, 3000 feet, July 6, and November 21 to 29; Rwansenge, 2200 feet, July 14; and Mongiro, 2300 feet, November 3 and 4. Five of the June-July birds from Ntandi had enlarged gonads; the others were in non-breeding state; bill black, the tomium of the mandible basally pale yellow; iris dark brown; feet olive; weight 11 to 15 grams; stomach contents small insects. The van Somerens (1949: 73) wrote that the stomachs of their series contained only small black scale insects and scale wax, very much as in the sharp-billed honey-guide, *Prodotiscus insignis*. They also noted that the behavior of these two unrelated birds was quite similar, searching about for scale insects. Many years ago, in Cameroon, Bates also noted the preference for scale insects shown by the green hylia.

FAMILY DICRURIDAE

Dicrurus adsimilis coracinus J. and E. Verreaux.

This drongo is common in the Bwamba Forest; our collectors obtained a series of specimens at Bwamba, April 20; Ntandi, 2300 feet, June 13 to 24 and November 1 to December 9; and at Bundimusuba, 3000 feet, July 11. The April birds, and some of those taken in other months, had enlarged gonads; the birds ranged in weight from 45 to 53 grams; stomach contents insect remains, chiefly beetles.

This species was noted by the van Somerens (1949: 80, 81) under two specific headings—*D. modestus* (= *D. adsimilis coracinus* of the present report) and *D. adsimilis divaricatus*. According to Vaurie's map (1949: 225), in western Uganda one might expect *coracinus* in the forests and nominate *adsimilis* in the adjacent open country. Three of our twelve specimens from Ntandi lack the deep velvety black upper back present in the other nine and have this area as glossy as the rest of the head and body, and might, therefore, be considered as examples of typical *adsimilis*. However, they have the inner portions of the remiges blackish, not ashy fuscous as in specimens of *adsimilis* from Kenya and Tanzania. Inasmuch as there is open country at Ntandi just outside the forest it is possible that these three specimens were taken outside the true forest and are nearer to *adsimilis* than to *coracinus*. They do not agree with *D. atripennis*, which is said to extend east to the Semliki Valley and might, therefore, be expected in Bwamba. This species has a shallower tail fork and is slightly smaller. Through the courtesy of the American Museum of Natural History, four examples of *atripennis* were available for direct comparison.

The van Somerens noted *coracinus* chiefly in those parts of the Bwamba forests where there was little undergrowth. This suggests that they found the velvety-backed drongo well in the interior, and not around the margins, of the woodlands. Williams (1951: 110) also found *coracinus* in the forests in Bwamba.

FAMILY LANIIDAE

Prionops caniceps mentalis (Sharpe).

The red-billed helmet-shrike is another common bird of the Bwamba woodlands. Both the van Somerens and our field parties saw many of them. We have some 14 specimens from: Bwamba, April 24; Ntandi, 2300 feet, June 28, November 20 to December 9; and Ntotoro, 2600 feet, February 28; bill dark crimson, the tip more orange-red; iris dull brownish gray with the outer ring orange or yellow; eye ring whitish; feet orange-red; weight 39 to 50 grams; stomach contents caterpillars, beetles, praying mantis, and other insect fragments.

Dryoscopus gabensis malzacii (Heuglin). v. S., 1949: 83.

Dryoscopus senegalensis (Hartlaub).

When the van Somerens (1949: 83) collected their first specimen at Bwamba the red-eyed puff-back shrike was an addition to the known avifauna of Uganda. They obtained others subsequently, and our collectors also found the species at Ntandi, 2300 feet, November 20, and succeeded in collecting two individuals, one in breeding condition; bill black; iris orange-yellow to orange-red; feet bluish gray; weight 30 to 34 grams; stomach contents insects, mainly beetles.

Tchagra minuta minuta (Hartlaub). v. S., 1949: 84.

Tchagra australis emini (Reichenow). v. S., 1949: 84.

Laniarius lühderi lühderi Reichenow.

This bush shrike was met with only at Ntandi, 2300 feet, December 10, when two specimens, in non-breeding state, were collected: bill black; iris dark brown; feet blue-gray; weight 45 to 50.5 grams; stomach contents beetles and small caterpillars.

Laniarius ferrugineus major (Hartlaub). v. S., 1949: 82.

Laniarius leucorhynchus (Hartlaub).

While the van Somerens (1949: 82) reported the sooty boubou as a scarce species in the Bwamba Forest, our field teams met with it often and collected 14 specimens at Ntandi, 2300 feet, June 15 to July 11, and October 6 to December 4; Rwansenge, 2200 feet, July 6; Bundimusuba, 300 feet, July 11; at "Bwamba" April 25; some of the July specimens had enlarged gonads; bill black; iris dark brown; feet black; weight 45 to 55 grams; stomach con-

tents insects, mainly beetles. At Ntandi this bush shrike was heard to give a five note whistle, first two, then a pause followed by three notes. It is a skulking bird of the dense creepers in secondary undergrowth where it keeps under cover as a rule.

Telophorus bocagei jacksoni (Sharpe). v. S., 1949: 84.

Malaconotus cruentus adolfi-friederici Reichenow.

The fire-breasted bush-shrike is common in the forests of Bwamba; our collectors obtained 8 specimens: Ntandi, 2300 feet, July 5 to 7, December 4 to 13; Rwansenge, 2200 feet, July 15; and Bwamba Forest, April 24. Two of the July birds were in breeding condition; the others were not; bill black; iris gray to pale gray; feet gray; weight 70 to 75 grams; stomach contents insects, including a grasshopper, small beetles, a butterfly, and moth eggs. Williams (1957: 159) was the first to record this species from the Bwamba Forest.

One of these birds was attracted by Robert Glen's imitation of its call and hopped about excitedly apparently trying to find the caller. The call was a series of five or six deep-toned whistled *poo poo* notes given at intervals of about a second.

Lanius mackinnoni Sharpe.

Three specimens, Ntandi, 2300 feet, July 2 and 3; and Nyankiro, 3000 feet, November 25; bill black; iris dark brown; feet black; weight 35 grams each; stomach contents insects. The van Somerens (1949: 84) found this gray shrike common in Bwamba.

Lanius minor Gmelin.

Our collectors obtained an example of the lesser gray shrike at Bwamba, April 25, and another at Kisuba, 2500 feet, November 2; bill black, paling to gray basally; iris dark brown; feet black; weight 48 grams; stomach contents insects.

Lanius excubitoroides excubitoroides Prevost and Des Murs. v. S., 1949: 85.

FAMILY ORIOLIDAE

Oriolus oriolus oriolus (Linnaeus).

Specimens of the European oriole wintering in the Bwamba lowlands were taken at Bundimusuba, 3000 feet, November 20, and at Bundikeke, 3000 feet, November 23; weight 68 to 74 grams; stomach contents insects.

Oriolus auratus notatus Peters. v. S., 1949: 85.

Oriolus brachyrhynchus laetior Sharpe.

The black-headed oriole was found to be common in the Bwamba woodlands; 15 specimens were taken: Ntandi, 2300 feet, June 16 to July 19 and November 1 to December 7; Nkarara, 2200 feet, June 30; and Mongiro, 2300 feet, November 14; some of them with large, others with small, gonads; bill

dull brownish pink to dill red (blackish in an immature bird); iris dark red to reddish brown; feet dark gray to bluish gray; weight 45 to 58 grams; stomach contents fruit seeds, and small caterpillars.

Oriolus nigripennis nigripennis Verreaux.

The van Somerens (1949: 85) were the first to record the black-winged oriole from Bwamba, and, indeed, from Uganda. Our field team found it but once, at Ntandi, 2300 feet, July 18; bill dull pinkish red; iris dark red; feet gray; weight 55 grams; stomach contents seeds, fruit, and insects.

FAMILY CORVIDAE

Ptilostomus afer (Linnaeus).

The piapiac is not a forest bird, but occurs in the open country immediately adjacent to the forest. One female was collected in the Semliki Valley, Bwamba, 2300 feet, April 21; bill black; iris violet; feet black. Ridley, Percy, and Percy (1953: 164) also reported taking two examples of this species from a flock on the banks of the Semliki where it emerges from the forest.

Corvus albus Müller. v. S., 1949: 86.

Corvus albicollis (Latham). v. S., 1949: 86.

Ridley, Percy, and Percy (1953: 164) reported several whitenecked ravens at Bweramule.

FAMILY STURNIDAE

Poeoptera lugubris Bonaparte.

This forest starling was added to the Uganda ornis when the van Somerens (1949: 87) reported it in considerable numbers in the Bwamba lowlands. Later, Ridley, Percy, and Percy (1953: 164) found small flocks at Bubukwanga. Our collecting teams did not meet with it at any time, which raises the possibility that the birds may wander about and stay only where shrubs or trees are fruiting. This is suggested by the experience of Williams who found them around fruiting fig trees and another unidentified forest tree with small green fruits. Our field team collected numerous specimens of this starling in other west Ugandan forests and were, therefore, familiar with it and its habits. The specimens they obtained in these other areas had fruit pulp and seeds in their stomachs.

Onychognathus fulgidus hartlaubi Grey.

Two specimens of this rufous-winged starling were taken, one at Ntandi, 2300 feet, December 11, and one at Nkarara, 2200 feet, June 28; both in non-breeding condition; bill black; iris red; feet black; weight recorded as 40 to 117 grams (but we think that 40 must be an error for 110, an easy slip in writing on a label); stomach contents fruit seeds and a large brown fruit. This starling is found in the more open parts of the forest, especially around

large trees left in clearings made by the natives for cultivation. Unlike some of the other starlings it does not go in flocks but is usually seen singly or in pairs. Williams (1951: 110) first reported this species from Bwamba (Bundibugyo).

Lamprotornis purpureiceps (J. & E. Verreaux).

Both the van Somerens (1949: 86-87) and our collectors found the purple-headed glossy starling commonly in various places in the Bwamba forests. We have a good series of specimens from Ntandi, 2300 feet, June 15 to July 10 and December 6 to 8; Bundimusuba, 3000 feet, July 8 to 10; and Bwamba Forest, April 25; birds with large and with small gonads were collected at the same time; bill black; iris dark brown; feet black; weight 60 to 70 grams; stomach contents fruit (?) seeds, and insect fragments.

Lamprotornis splendidus splendidus (Vieillot).

Our collectors found this handsome glossy starling very common in Bwamba, as did the van Somerens many years earlier (1949: 87). Ridley, Percy, and Percy (1953: 164) saw several hundred of them at a communal roost near the Kirimia River. We have half a dozen specimens: Ntandi, 2300 feet, June 22; Bundimusuba, 3000 feet, November 20 and 23; Rwansenge, 2200 feet, July 15; all in non-breeding condition; bill black; iris white; feet black; weight 110 to 142 grams; stomach contents fruit pulp, seeds, and, in one case, some insect fragments. One of the Bundimusuba birds was collected from a party of over 100 individuals feeding in the fruiting trees.

Cinnyricinclus leucogaster verreauxi (Bocage).

Reported as seen in large flocks at times by the van Somerens (1949: 86), our collectors found this starling in the forest clearings in smaller numbers, only one or a few at a time, usually well up in the trees. They obtained a few specimens at Ntandi, 2300 feet, November 29, and at Bundimusuba, 3000 feet, November 22; bill black; iris bright lemon yellow in two males, brownish gray with a pale yellow outer ring in a female; feet blackish; weight 45 to 48 grams; stomach contents fruits and fruit seeds. At Bundimusuba a party of 6 or 7 of these starlings was seen feeding in a fruiting wild fig tree.

Buphagus erythrorhynchus erythrorhynchus (Stanley). v. S., 1949: 88.

FAMILY ZOSTEROPIDAE

Zosterops senegalensis toroensis Reichenow. v. S., 1949: 88.

FAMILY NECTARINIIDAE

Anthreptes fraseri axillaris (Reichenow).

The gray-headed sunbird is common in the Bwamba forests. The van Somerens (1949: 78) found it chiefly in the tree-tops; our collectors, and, earlier, the junior author, collected many specimens at Ntandi, 2300 feet,

June, July, October, November, December; Nkarara, 2200 feet, June and July; Mongiro, 2300 feet, November. Some birds with enlarged gonads and others with small ones were taken during the same months; bill blackish, grayer on the mandible; iris brown to red-brown; feet gray with an olive wash; weight 9.5 to 13 grams; stomach contents insect fragments, including at least one caterpillar.

Anthreptes longuemariae haussarum Neumann.

There are two specimens of this white-bellied sunbird from Mongiro, 2300 feet, July 1 and 11, in the Williams collection of sunbirds, now in the Los Angeles County Museum of Natural History; bill dark brown; iris brown; feet black. The sunbird occurs in the open, grassy areas next to the forest, but not in the dense woodlands.

Anthreptes rectirostris tephrolaema (Jardine and Fraser).

Fairly common, although recorded by the van Somerens (1949: 78) as somewhat scarce, but possibly overlooked. We have specimens from Ntandi, 2300 feet, June 20, and November 8 to 25; Mongiro, 2300 feet, November 7 and 12; the June bird and one of the November ones had enlarged gonads; bill blackish horn; iris deep reddish brown; feet blackish brown; weight 6 to 10.5 grams; stomach contents small fruit seeds and insect remains.

Anthreptes collaris somereni Chapin.

Our collectors found this sunbird common and obtained a series of specimens at Ntandi, 2300 feet, June, July, and November; Nkarara, 2200 feet, July; Mongiro, 2300 feet, November; and Rwansenge, 2200 feet, July. Yet neither the van Somerens nor the Knudsen-Machris expedition collected this species in Bwamba. Two of our July birds had enlarged gonads; bill black; iris dark brown; feet black; weight 7.5 to 9 grams; stomach contents small insect fragments. This sunbird is commoner around the edges of clearings in the forest than in the depths of the forest.

Nectarinia seimundi traylori Wolters.

Our collectors met with the little green sunbird only at Ntandi, 2300 feet, July 6 to 17, when they collected a number of specimens; bill dull horn gray, paling to yellowish horn on the mandible; iris brown; feet dark gray; stomach contents small spiders, fig seeds and pulp, and other small seeds. There are other Bwamba examples in the Williams sunbird collection, and the van Somerens (1949: 78) found the species to be plentiful, but easily overlooked. In the Congo, Chapin (1954: 205) also found it, "... one of the sunbirds most easily overlooked ..."

Nectarinia olivacea cephaelis (Bates).

The olive sunbird is common in the forests of Bwamba; we have a long series of specimens from: Ntandi, 2300 feet, June, July, and November; Bundimusuba, 3000 feet, November; Mongiro, 2300 feet, November; and

Bwamba, April. Some of the April and July birds had enlarged gonads; bill black; iris dark brown; feet dark brown; weight 9 to 13 grams; stomach contents insects. Previously recorded from Bwamba by the van Somerens (1949: 77) and by Williams (1951: 110).

Nectarinia verticalis viridisplendens (Reichenow). v. S., 1949: 77.

Nectarinia cyanolaema octaviae (Amadon).

The blue-throated brown sunbird is common in the Bwamba Forest. We have a good series of specimens from: Ntandi, 2300 feet, June, July, November, and December; Mongiro, 2300 feet, November; Bundimusuba, 3000 feet, November; and the north Humia River, 2300 feet, December; bill black; iris dark brown; feet black; weight 12 to 18 grams; stomach contents insect remains.

Nectarinia rubescens rubescens (Vieillot).

This sunbird is fairly common and widely distributed in the Bwamba Forest. The van Somerens (1949: 76) reported it chiefly in the more open parts of the forest and on the margins of the denser parts; our collectors met it in many places, and obtained specimens at Ntandi, 2300 feet, July, October, December; Mongiro, 2300 feet, November; and Bwamba, March; many other specimens are in the Williams sunbird collection; bill black; iris dark brown; feet black; weight 10 to 13 grams; stomach contents insects and spider fragments.

Nectarinia senegalensis lamperti (Reichenow).

Williams (1951: 109) refers to several Bwamba specimens. Previously this sunbird had been reported from Bwamba by the van Somerens (1949: 76) as well.

Nectarinia venusta igneiventris (Reichenow). v. S., 1949: 74.

Nectarinia chloropygia orphogaster (Reichenow).

The olive-bellied sunbird is very common in Bwamba, chiefly in the cultivated areas outside the true forest; we have many specimens: Ntandi, 2300 feet, June, July, November, and December; Bumaga, 2300 feet, July; Nkarara, 2200 feet, July; Rwansenge, 2200 feet, July; and Bwamba Forest, April. Some of the July birds had enlarged gonads; bill black; iris dark brown; feet black; weight 7 to 11.5 grams; stomach contents small insect remains. The van Somerens (1949: 74) found nesting pairs in April and July.

Nectarinia minulla minulla (Reichenow).

First recorded for Bwamba by the van Somerens (1949: 75), many specimens were collected later by or for Williams, and are now in his sunbird collection in Los Angeles; our present collectors obtained an additional seven specimens at Ntandi, 2300 feet, June 17 to July 10, and December 2. Most of the June-July birds were in breeding condition. This species fre-

quents the second growth and the borders of the heavy forest, into the depths of which it seldom penetrates.

Nectarinia bouvieri (Shelley).

Williams (1951: 109) obtained two examples of this seldom collected sunbird at Ntotoro, 2250 feet, March 22, 1948, in secondary growth in the forest. No one else has noted it in Bwamba.

Nectarinia cuprea cuprea (Shaw).

The coppery sunbird is not found in the dense forest but at the edges of such areas, especially where there are numerous flowering trees. The van Somerens (1949: 76), Williams (1951: 109) and the Knudsen-Machris 1963 expedition (Friedmann, 1966: 47) all obtained specimens. Since then our collectors met with this species but once, at Ntandi, 2300 feet, July 12 to 18, when they obtained three examples, one in breeding condition, the other two not; bill black; iris dark brown; feet black; weight 9.5 grams; stomach contents small insects.

Nectarinia purpureiventris (Reichenow). v. S., 1949: 74.

Nectarinia erythrocerca Hartlaub. v. S., 1949: 74.

Nectarinia superba buvuma (van Someren).

Our collectors obtained specimens of this sunbird only at Ntandi, 2300 feet, June 29 to July 14, and November 7 to 11. Two of the November birds had enlarged gonads; bill black; iris dark brown; feet black; weight 17 to 19 grams; stomach contents insects. The van Somerens (1949: 76) found the superb sunbird at Bundibugyo and Kanyamwerima. This sunbird is more a bird of the borders rather than the depths of the heavy forest. It is much attracted to banana flowers in the cultivations along the forest margins.

Nectarinia kilimensis kilimensis Shelley. v. S., 1949: 74.

FAMILY PLOCEIDAE

Passer griseus griseus (Vieillot).

The common gray-headed sparrow is a bird of the open, cultivated areas, not of the forest; specimens were taken at Ntandi, 2300 feet, Nyankiro, 3000 feet, and "Bwamba Valley," 2600 feet, in April, July, and November; bill black; iris light brown; feet brown; weight 28 to 32.5 grams; stomach contents seeds and grit.

Amblyospiza albifrons melanota (Heuglin).

Common in the grassy areas, not entering the forest. This bird has been noted by everyone who has written about Bwamba birds, and our specimens add nothing new; we have a series from several localities in Bwamba, April, July, October, and November; bill blackish horn in males, yellowish brown with blackish tip in females; iris dark brown; feet dark grayish brown; weight

40 to 44 grams; stomach contents seeds. A party of grossbeak weavers was seen feeding in a fruiting tree at Nyankiro, November 25.

Ploceus baglafecht stuhlmanni (Reichenow). v. S., 1949: 94.

Ploceus pelzelni pelzelni (Hartlaub).

One specimen, with enlarged gonads, was collected at Rwansenge, 2200 feet, July 14; bill black; iris dark brown; feet gray with a brownish tinge; weight 13 grams; stomach contents insects. The fact that our collectors met with this bird only once, coupled with the absence of any mention of it in the earlier Bwamba literature, suggests that it is an uncommon bird there.

Ploceus ocularis crocatus (Hartlaub). v. S., 1949: 93.

Ploceus nigricollis nigricollis (Vieillot).

Fairly common; our field teams obtained a number of specimens at Korongo, Semliki River, 2200 feet, July 14; Ntandi, 2300 feet, November 1; and Mongiro, 2300 feet, November 8 to 12; bill black; iris dark brown; feet gray; weight 24 to 28 grams; stomach contents insects.

Ploceus xanthops (Hartlaub). v. S., 1949: 94.

Ploceus cucullatus bohndorffi Reichenow.

A very common bird in the clearings, cultivated areas, and native villages. We have many specimens from Bwamba valley, 2600 feet, April; Humia, 2300 feet, July and December; Ntandi, 2300 feet, July and November. All earlier collectors in Bwamba have similarly found this weaver to be very numerous. Our specimens had the bill black; iris orange-red; feet pale brown; weight 38 to 45 grams; stomach contents seeds and some beetle and other insect fragments.

Ploceus nigerrimus nigerrimus Vieillot.

Another common weaver of the Bwamba lowlands, as noted long ago by the van Somerens (1949: 92). We have series of specimens from Ntandi, 2300 feet, June, October, and November; Mongiro, 2300 feet, November; and Bundimusuba, 3000 feet, July; bill black; iris dark red-brown to dark brown; feet pale brown to gray-brown; weight 27 to 33 grams; stomach contents seeds and insect remains.

Ploceus melanocephalus fischeri Reichenow.

This weaver is represented in the collection by two males taken at Rwansenge, 2200 feet, July 14 and 15; bill black; iris dark brown; feet pale brown; weight 26, 27 grams; stomach contents seeds, and insects.

Ploceus tricolor interscapularis Reichenow.

The van Somerens (1949: 92-93) considered this species as scarce, but admitted that it might have been overlooked in the forest. Our collectors obtained a series of 13 specimens at Ntandi, 2300 feet, June 13 to 21, Octo-

ber 26 to November 28; Mongiro, 2300 feet, November 7; and Bundimusuba, 3000 feet, July 12; bill black; iris dark red-brown to dark brown; feet pale brown to gray-brown; weight 27 to 33 grams; stomach contents seeds and small insects.

At Ntandi, on November 24, eight or more of these weaver birds were watched as they flew into the upper branches of a tall ironwood tree, where they busily moved about searching for food among the pale green foliage at the tips of the branches.

Ploceus albinucha holomelas Sassi.

This weaver was first found in the Bwamba lowlands by Williams (1951: 110) and seemed to be a scarce bird there. Our collectors obtained two specimens at Ntandi, 2300 feet, December 8; bill black; iris white; feet grayish black; weight 26 and 29.5 grams; stomach contents small caterpillars.

These two individuals were shot from a large flock high up in the top-most foliage of tall trees in the ironwood forest. The birds were extremely shy, and were followed for some distance before the collectors could get within gun shot range. The birds remained wholly in the upper leafy branches and were difficult to see when perching, becoming visible chiefly when beginning to move. They had a constant *chick chick* note, apparently given by all the members of the party.

Ploceus superciliosus (Shelley).

This is a bird of the tall grass, not of the forest. The van Somerens (1949: 94) found it at Bundibugyo; our collectors obtained a few examples at Nkarara, 2200 feet, June 27 and July 2, and at Ntandi, 2300 feet, July 14. One of the Nkarara birds was in breeding condition; bill black on the maxilla, gray on the mandible; iris dark brown; feet pale brown; weight 22 to 23 grams; stomach contents seeds, but, in one case, mainly insect remains.

Ploceus bicolor mentalis (Hartlaub).

This weaver is not numerous, but is probably widely distributed in Bwamba. The van Somerens (1949: 94) found it in at least two localities, and we have two specimens from a third one—Bundimusuba, 3000 feet, November 20; bill blue-gray with the tomium darker; iris deep crimson; feet pale brownish flesh color; weight 32 and 34 grams; stomach contents insects.

Malimbus nitens (Gray).

Our collectors found this species in a number of localities, which makes it surprising that the van Somerens failed to report it. We have specimens from Nkarara, 2200 feet, July 1, 2; Rwansenge, 2200 feet, July 13; Korongo, Semliki River, 2200 feet, July 14; and Mongiro, 2300 feet, November 7 to December 10. At Mongiro three examples were obtained all of which were in breeding condition; bill pale bluish gray; iris red to red-brown; feet dark gray; weight 30 to 37 grams; stomach contents insects and small flat seeds.

A specimen taken at Mongiro on November 7 was watched building its nest on a hanging branch over a small stream. Another was seen feeding among oil palm fronds. The bird gave a warbling *chrr-rr-rr* note, as well as a sharper *chrick* call. This forest weaver was first reported from Bwamba, and, indeed, from Uganda, by Williams (1957: 159).

Malimbus rubricollis rubricollis (Swainson).

Although the van Somerens (1949: 94) found this species throughout the lowland forest of Bwamba, our collectors met with it only once, at Bundimusuba, 3000 feet, July 11 and 12, where three specimens, one in breeding state, were taken; bill black; iris dark brown; feet blackish; weight 39 to 44 grams; stomach contents ants (?), beetles, and other insects.

Malimbus erythrogaster Reichenow. v. S., 1949: 95.

Malimbus malimbicus malimbicus (Daudin).

A numerous bird of the Bwamba forests; we have a long series from seven localities, 2600 to 3000 feet in elevation, taken in April, June, July, October, November, and December. Most were in non-breeding condition, but five out of fourteen taken from the end of October to early in December had enlarged gonads; bill black; iris dark brown; feet blackish gray; weight 26 to 43 grams; stomach contents insects, with many beetles in some cases. One female at Ntandi, December 7, was seen picking up fibers from a dead creeper, presumably for nest-building. Others were noted feeding high up in a tall tree.

Quelea quelea aethiopica (Sundevall). v. S., 1949: 97.

Euplectes gierowii ansorgei (Hartert).

Reported as plentiful near Bundibugyo by the van Somerens (1949: 96), our collectors only once encountered this bird of the tall grasslands, at Mongiro, 2300 feet, November 1, when they were able to collect a single specimen; bill black; iris dark brown; feet dark brown; weight 30 grams; stomach contents seeds.

Euplectes hordeaceus craspedopterus (Bonaparte).

Not a bird of the forest. One of these bishop birds was collected in Bwamba valley, 2600 feet, on April 19, by the Knudsen-Machris expedition; bill black; feet dark flesh color.

Euplectes axillaris phoeniceus (Heuglin). v. S., 1949: 96.

Euplectes ardens concolor (Cassin). v. S., 1949: 96.

FAMILY ESTRILDIDAE

Parmoptila woodhousei jamesoni (Shelley).

This seldom collected little bird was met with at Ntandi, 2300 feet,

where four specimens were obtained, November 16 to December 4. One of them had enlarged gonads; the others did not; bill black; iris dark brown; feet whitish brown; weight 10 to 10.5 grams; stomach contents small insect remains.

This little bird has a wide range of food foraging. One of them was seen hopping about in dense undergrowth about two feet from the ground, where it was with another individual, possibly its mate, apparently searching for food. Another was collected close to the forest floor, but a third one was shot about 30 feet up from the ground on a frond of an oil palm, where it was hanging upside down searching for insects. The species was noted as having a soft *twee twee* call note, and as being a fast flier. Keith (1968: 13-14) noted a Bwamba sight record by Smart.

Nigrita fusconota fusconota Fraser.

This species is found throughout the Bwamba forests. The van Somerens (1949: 98) reported it from four localities, to which our collection adds a fifth. At Ntandi, 2300 feet, July 10 to 17 and again from November 12 to 16, nine specimens were obtained; six of the July birds were in breeding state; the November birds were not; bill black; iris dark brown; feet dark gray; weight 8 to 10 grams; stomach contents very small insects.

Nigrita bicolor brunnescens Reichenow.

Common in the outer fringes of the forest; our collectors obtained 13 specimens at Ntandi, 2300 feet, June 16 to July 31, while a single one was taken in the "Bwamba valley" April 23, by the Knudsen-Machris expedition. The birds taken at Ntandi varied in their gonadal state from small to much enlarged; bill black; iris dull red to dark brown; feet brown to grayish brown; weight 9 to 13 grams; stomach contents insect fragments. This species was first recorded from Bwamba by the van Somerens (1949: 99), who thereby established its place in the Uganda avifauna. One of the Ntandi specimens, taken on July 5, was building a nest of dry leaves when collected.

Nigrita luteifrons luteifrons J. and E. Verreaux.

Apparently the least numerous species of its genus in the Bwamba lowlands, as it was not reported by the van Somerens' collectors there. We have three specimens, all taken at Ntandi, July 12, November 11 and 12; bill black; iris yellowish white; feet brownish white; weight 11 to 12 grams; stomach contents insect fragments. This species was first reported from Bwamba by Williams (1957: 160). Keith (1968: 13) also obtained a specimen there.

Nigrita canicapilla sparsinguttata Reichenow.

This is the commonest of the four species of *Nigrita* in the Bwamba lowlands, where it is found chiefly about the edges of the forest. It was reported by all the earlier workers on Bwamba ornithology, and our present series of 29

specimens adds little new. The Bwamba population is intermediate in character between *sparsinguttata* and *schistacea*, but we place our birds under the former name to conform to the treatment in the last revision of the Estrildidae (Traylor, 1968: 310-389). Our specimens, taken in "Bwamba Forest," 2600 feet; Ntandi, 2300 feet, and Bundimusuba, 3000 feet, in April, June, July, October, November, and December, had the bill blackish basally, reddish distally; iris orange-red to dull orange; feet dark brown; weight 16 to 21 grams; stomach contents fruit skins and some insect fragments.

Nesocharis ansorgei ansorgei (Hartert). v. S., 1949: 101.

Mandingoa nitidula schlegeli (Sharpe).

The van Somerens (1949: 101) observed this little twin-spot only once, but our collectors obtained a long series of specimens at no less than seven localities, which indicates that the bird is abundant and widely distributed in the Bwamba forests: Bwamba, 2600 feet, April; Bumaga, 2300 feet, June; Nkarara, 2200 feet, June and July; Ntandi, 2300 feet, June, July, October, November, December; Rwansenge, 2300 feet, July; Mongiro, 2300 feet, November; and Bundimusuba, 3000 feet, November. Birds with enlarged gonads were taken together with others in non-breeding state, in July and November; bill blackish basally, the distal half or more red; iris dark brown; feet brown; weight 10 to 12.5 grams; stomach contents small seeds.

Pyrenestes ostrinus ostrinus (Vieillot).

The black-bellied seed-cracker is common in the Bwamba woodlands, where our collectors obtained a dozen specimens at Ntandi, 2300 feet, June 18 to July 7, and December 10; and at Rwansenge, 2300 feet, July 13. Two of the June-July birds were in breeding state; bill metallic blue-gray, the tip darker; iris dark brown; feet brown; weight 18 to 27 grams; stomach contents crushed white seeds.

Everyone who has had occasion to study specimens of this bird has been puzzled at the enormous size variability of their bills, and has been tempted to divide them into sympatric species. However, Chapin's conclusions (1924 and 1954: 490-498) still seem the best we have, and the only ones that fit the biological requirements of the problem. As the van Somerens remarked (1949: 100) there is an almost parallel case in *Amblyospiza*.

Spermophaga poliogenys (Ogilvie-Grant).

This relatively uncommon species is a denizen of the deep forest, where it is apt to be either overlooked or confused by the observer with the next, and much commoner species. It was first reported from Bwamba by Williams (1951: 110) who thereby added it to the known avifauna of Uganda. We have a small series of specimens, all taken at Ntandi, 2300 feet, in July, November, and December; one of the July birds was in breeding state; the others had small gonads; bill metallic blue-gray, turning to orange at the tip

and along the tomium; iris dark brown; feet grayish brown; weight 20 to 21 grams; stomach contents small seeds.

Spermophaga ruficapilla ruficapilla (Shelley).

Very common in the Bwamba forests; the van Somerens (1949: 99) noted it in many places and our collectors obtained many specimens at the following localities: "Bwamba," April; Nkarara, 2200 feet, June and July; Ntandi, 2300 feet, June, July, October, November, and December; Bundimusuba, 3000 feet, July and November; Mongiro, 2300 feet, November. In all these places and months birds with large gonads and others with small, resting ones, were taken together; bill basally blackish with a bright metallic blue wash, and becoming reddish or reddish purple distally; iris dark brown; feet brown with gray or olive wash, eye ring pale blue; weight 16 to 26.5 grams; stomach contents small seeds exclusively.

An adult male with enlarged gonads, taken at Ntandi, November 20, was seen to fly into a dense thicket of dead scrubs with a stem of grass in its bill, presumably for nest-building. This suggests that the male takes part in the task of nest-building; hitherto nothing was recorded in print about the role of the sexes in nidification in this species, although the van Somerens collected a pair "... engaged in nest-building, though we did not know this till the female was shot. As we were going forward to pick her up, a male flew out from the base of an oil palm, and on searching the spot a collection of green material was found, hidden under leaves in the axils of drooping fronds. It was a rather large structure, domed and with a side entrance..."

Lagonosticta rubricata congica Sharpe.

This fire finch occurs in the grassy areas at the outside edge of the forest or in grassy clearings inside the forest. We have only a single example, a bird in breeding condition, taken at Nkarara, 2200 feet, on July 3. The van Somerens (1949: 101) had reported the species from Bwamba many years earlier, but gave no indication as to its numerical status there.

Estrilda melanotis kilimensis (Sharpe). v. S., 1949: 102.

Estrilda paludicola paludicola Heuglin.

The fawn-breasted waxbill is common in the bush and grass country close to the forests. We have a few specimens from "Bwamba," April 23; Nkarara, 2200 feet, June 28; and Ntandi, 2300 feet, November 16; bill bright orange; iris red; feet dull gray brown; weight 5 to 8 grams; stomach contents small grass seeds. Although the limits of the ranges of typical *paludicola* and of the race *roseicrissa* are uncertain in western Uganda, we follow Chapin (1954: 538) and the van Somerens (1949: 101) in considering the Bwamba population to be of the nominate subspecies. The Bwamba area is between the ranges of the two races as given by Traylor (1968: 339).

Estrilda astrild adesma Reichenow.

The common waxbill is abundant in the open country of the Bwamba lowlands as it is in suitable areas in most of Africa. The only question is whether Bwamba birds are to be considered *adesma* or *nyansae*, or if the two are really separable. Chapin (1954: 547-548) treated *adesma* as a synonym of *nyansae*; we are following Traylor (1968: 342) in considering *adesma* distinct, as a matter of conforming to the latest revision, as we do not have the material on which to decide otherwise. Our collectors paid little attention to the birds outside the forest in Bwamba and obtained but a single specimen, at Ntandi, 2300 feet, December 2; bill red; iris dark brown; feet blackish; weight 7 grams; stomach contents grass seeds.

Estrilda nonnula nonnula Hartlaub.

The black-crowned waxbill is also a very common bird of the open cultivated areas adjacent to the forests. Our collectors obtained examples at Nkarara, 2200 feet, June 29; Ntandi, 2300 feet, June 23 and 26; and at Bundimusuba, 3000 feet, November 23; the Ntandi birds were in breeding condition; the others were not; bill black with the sides of the culmen and the base of the mandible dull red; iris dark brown; feet black; weight 7 to 8 grams; stomach contents grass seeds.

Amandava subflava subflava (Vieillot). v. S., 1949: 102.*Lonchura cucullata cucullata* (Swainson).

The little bronze mannikin is very common in the open areas outside of the forest. We have a series of specimens from Ntandi, 2300 feet, June 15 to July 19, and October 30 to November 20; and from Mongiro, 2300 feet, November 13; bill black on maxilla, gray on mandible; iris dark brown; feet blackish; weight 8 to 11 grams; stomach contents grass seeds.

Lonchura bicolor poensis (Fraser).

As pointed out by the van Somerens (1949: 98) the black and white mannikin is more of a dweller in the forest margins and less in the open cultivated areas than is the bronze mannikin. Our collectors obtained specimens only at Ntandi, 2300 feet, June 15, and October 29 to November 29; mostly in breeding state; bill pale blue-gray; iris dark brown; feet black; weight 10 grams in every case; stomach contents grass seeds.

Lonchura fringilloides (Lafresnaye).

When the van Somerens (1949: 97) first recorded the magpie mannikin from the cultivated, open areas of Bwamba, it was a "new" bird to Uganda. It still is a relatively seldom reported species, but our collectors obtained a small series at the following localities: Ntandi, 2300 feet, June 19 and October 26 to November 15; Nkarara, 2200 feet, July 13; Rwansenge, 2300 feet, July 14; and Humia, 2300 feet, December 4; some of the July and November

birds had enlarged gonads; the others had small ones; bill black on the maxilla, pale blue-gray on the mandible; iris dark brown; feet dark gray; weight 17 to 20 grams; stomach contents small seeds.

Vidua macroura (Pallas). v. S., 1949: 97.

FAMILY FRINGILLIDAE

Serinus frontalis frontalis Reichenow. v. S., 1949: 103.

Serinus mozambicus barbatus (Heuglin). v. S., 1949: 103.

Serinus sulphuratus shelleyi Neumann. v. S., 1949: 103.

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